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CRUSE AVENUE
project M5815(1)
NORTH LAST CHANCE GULCH
project M5807(1)
project M5807(2)

DRAFT
ENVIRONMENTAL
IMPACT / 4(f)
STATEMENT



Helena, Montana

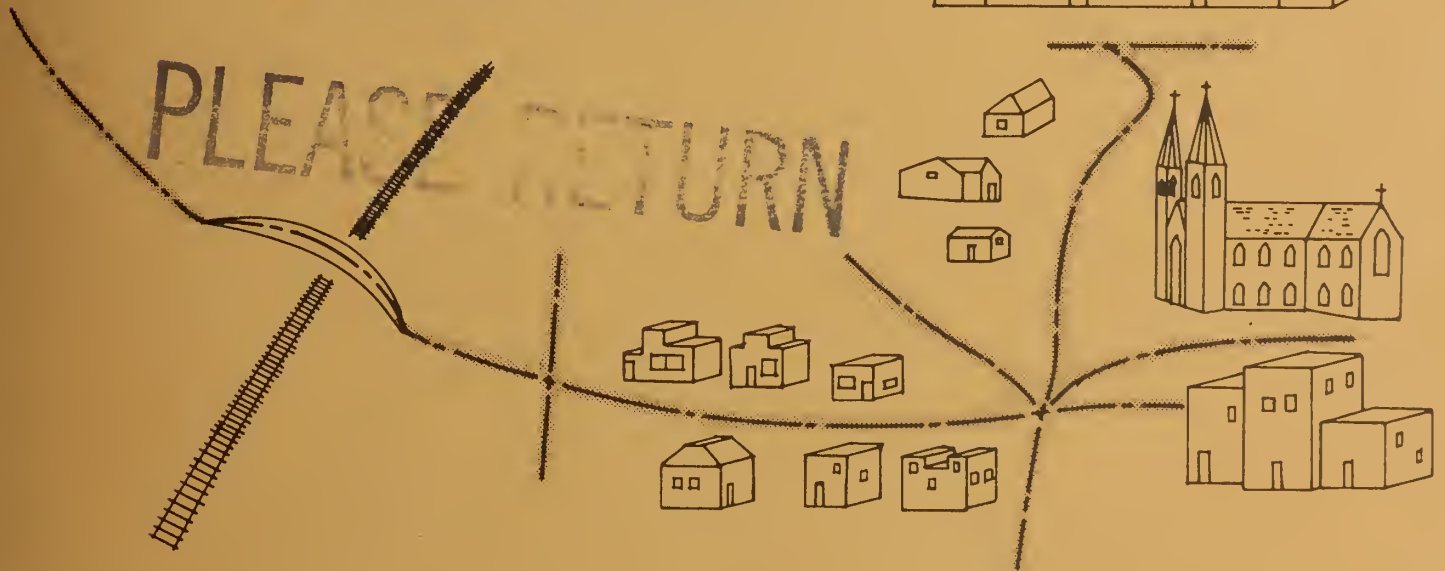
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MONTANA DEPARTMENT OF HIGHWAYS

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PROJECT NO. M5815(1), CRUSE AVENUE
SIXTH AVENUE TO NEILL AVENUE

PROJECT NO. M5807(1), NORTH LAST CHANCE GULCH
NEILL AVENUE TO LYNDAL AVENUE

PROJECT NO. M5807(2), NORTH LAST CHANCE GULCH
LYNDAL AVENUE TO MONTANA AVENUE

HELENA, LEWIS AND CLARK COUNTY, MONTANA

DRAFT ENVIRONMENTAL IMPACT/4(f) STATEMENT

U.S. Department of Transportation
Federal Highway Administration
and
State of Montana
Department of Highways

ABSTRACT

The proposed projects are being evaluated as part of the community and regional planning effort. The projects will provide substantially improved access to the urban area especially the Central Business District. The action will result in the taking of property and buildings for new roadway and the reconstruction of existing traveled ways. The alternatives of minor and no-action are reviewed in this Draft EIS.

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Comments on the Draft EIS are due by _____, 1981,
and should be sent to Mr. Kologi at the above address.

SUMMARY

Description of the Proposed Action

Project M5815(1) - Cruse Avenue

Cruse Avenue extension will begin at the northern terminus of existing Cruse Avenue at Sixth Avenue and extend north about 0.3 miles to a connection with Neill Avenue and the other streets in that vicinity. A new 58 foot wide, two-way, two-lane roadway with two parking lanes and a 14 foot painted median will be constructed. Integral curb and gutter and sidewalks will be provided on each side.

Project M5807(1) - North Last Chance Gulch

The project begins at the intersection of Neill Avenue and extends northerly along North Last Chance Gulch about 0.45 miles to its intersection with Lyndale Avenue. The proposed reconstruction within the existing 70 foot right-of-way will consist of a 56 foot wide, two-way, two-lane roadway with two parking lanes and a 10 foot painted median. New integral curb and gutter and sidewalks will be provided on each side where none exist or conditions warrant replacement.

Project M5807(2) - North Last Chance Gulch

The project begins at the intersection of Lyndale Avenue and extends north along North Last Chance Gulch (North Main Street) about 0.82 miles to the intersection of Montana Avenue and Cedar Street. The typical section proposed will be a two-way, four-lane roadway with integral curb and gutter and sidewalks on both sides. A 14 foot median is proposed at Lyndale Avenue and from Chestnut Street to the end of project. Alignment will follow the existing traveled way, additional right-of-way will be required.

Alternatives Considered

Four new alternate alignments are under consideration for the Cruse Avenue Extension. There are two recommended alignments of Cruse Avenue; 1) connecting to Last Chance Gulch south of Neill Avenue, 2) connecting to Last Chance Gulch opposite Neill Avenue. There are four different considerations for the realignment of Eleventh Avenue to connect to Cruse Avenue and/or Last Chance Gulch depending on the Cruse Avenue alignment. Cruse Avenue and some segments of Eleventh Avenue will be new. Estimated costs range from \$2,327,000 to \$2,943,000.

A minor alternative utilizing the existing street system is also considered. Improvements would include channelization, removal of on-street parking, minor widening and signing.

Only one major build alternate is being considered for the section of North Last Chance Gulch from Neill Avenue to Montana Avenue. The build and/or reconstruction essentially follows the present right-of-way. The estimated cost of M5807(1) and M5807(2) is \$385,000 and \$3,079,000 respectively. Project cost for M5807(2) includes two new four-lane railroad overpasses.

The no-action alternative or continuation of existing transportation policies is considered for all three projects.

Environmental Impacts

A transportation facility providing good access could induce growth and make it feasible and profitable for a business to stay, locate or expand in an area. The projects should ensure Central City neighborhood preservation and enhancement. The proposed projects have high priority in the area planning program.

Significant Impacts

- Removing or altering the setting of buildings that are eligible or potentially eligible to be listed in the National Register and the construction of a new roadway within the Helena Historic District.
- The impact on recreation facilities consists of a minor taking of improved land from a publicly owned recreation area.
- Necessary commercial and residential relocation.
- The construction process will disrupt the area and necessitate detours, traffic delays, etc.
- The projects will result in the expenditure of approximately 6 million dollars.

Controversial Impacts

Controversial impacts include the Historical District, significant or potentially significant structures, Bausch and Memorial Parks, relocation of functioning businesses, diversion of traffic in the area of the Cathedral of St. Helena, and acquisition of approximately 26 low income rentable residential units.

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CHAPTER 1 - PURPOSE OF AND NEED FOR THE ACTION

INTRODUCTION

Helena is located near the southern border of Lewis and Clark County and is the Capital of Montana and the Lewis and Clark County Seat. Approximately 38,750 people live within the City of Helena and its immediate metropolitan area. It is centered in the western half of the State and within 120 miles of the four major western cities in Montana. The primary market area is comprised of Lewis and Clark, Jefferson and Broadwater Counties. The location of Helena is shown on Figure 1-5.

The draft environmental impact statement (DEIS) studies the effect of improvements on three contiguous highway sections. The document will consider environmental effects on the entire corridor, even though the proposed projects may be built in separate stages over a multi-year work program.

The projects will provide substantially improved access to the Central Business District. The build alternate will result in the taking of property, buildings, and relocation of businesses and households. The action also includes planning to minimize impacts to public parks and historically or architecturally significant buildings or sites.

HISTORY OF PROJECT AREA

The town started in 1864 and grew up around the mining activities. The original townsite and the Central Business District are located on the southern edge of Prickly Pear Valley at the base of the Rocky Mountains.

The project area is located in that part of Helena which developed as a marginal or transitional area between the later commercial and financial business district extending from Sixth Avenue to the south and the manufacturing and transportation-related businesses extending from Sixth Avenue to the north. This area came to be flanked by the predominately residential areas that gradually spread north toward Lyndale Avenue around the turn of the century. The transitional character of this part of Helena is evident today. The area just to the north of Sixth Avenue between North Last Chance Gulch and East Lawrence is in the original Helena townsite platted in 1864. This area and that to the north were placer mined in the 1860's, but not as intensively as the area farther south on the Gulch. Evidence of mining (boulders, pilings, and ditches) in the area was clearly visible to those traveling between the Northern Pacific Depot at the end of Helena Avenue and downtown Helena in the 1880's. Such evidence probably lasted longer there than farther up the Gulch because the area north of Eleventh Avenue was slow to develop.

The railroads contributed to the development of the project area. The physical presence of the railroad tracks and freight yards largely confined the commercial development of the City between Sixth and Helena Avenues. Several business blocks were built in the Sixth to Helena Avenue area partly as a result of the business boom of the period, some specifically to serve the railroads.

North Last Chance Gulch north of the railroad has changed somewhat since 1940, with the rise of strip development in the form of service stations, auto sales, TV and electrical sales and service shops, fast food restaurants, and real estate offices. Still, the major commercial development in Helena has been in other directions, especially to the northwest and northeast. Montana Power has new facilities near the railroad tracks, Memorial Park replaced the Northern Pacific Railroad Yards, and the YMCA was recently constructed in Bausch Park.

The project area is not associated with any particular minority or ethnic groups. There were large numbers of such groups (e.g., Chinese, Jews, Germans) in some blocks in Helena from the mining days to about the turn of the century, but none are presently associated with any part of the project area.

COMMUNITY AUTHORIZATION

The following road and street priorities were adopted for funding from the Federal Aid Urban System Program by the Policy Coordinating Committee on July 2, 1979.

- Project M5815(1) - Cruse Avenue extension from Sixth Avenue to Neill Avenue and Project M5807(1) - North Last Chance from Neill Avenue to Lyndale Avenue.
- Project M5807(2) - North Last Chance Gulch (North Main Street) from Lyndale Avenue to North Montana Avenue.

Authorization was given to continue preliminary engineering. The priorities of the Policy Coordinating Committee were adopted by the City Commission of Helena. The project locations are shown on Figure 1-1.

NEED

The need for all three projects was first described in the "1970 Helena Urban Transportation Study" and the subsequent "1979 Helena Urban Transportation Study Update" (not complete). The rationale for the proposed projects can be summarized as follows:

- M5815(1) - Cruse Avenue Extension - completion of the remaining three blocks of an arterial loop around the downtown area which was begun under the Urban Renewal Program. This project will provide major circulation within the Central Business District.
- M5807(1) - North Last Chance Gulch from Neill Avenue to Lyndale Avenue - reconstruct an old, part concrete, part bituminous pavement and develop a typical section which will provide a continuous median left-turn lane.
- M5807(2) - North Last Chance Gulch (North Main Street) from Lyndale Avenue to North Montana Avenue - develop a full four-lane facility to replace a narrow inadequate two-lane section built in 1934.

The purpose of the projects is to increase the accessibility of facilities and services in the Central Business District and along the corridor. This will protect the existing development and promote business to locate or expand in the area.

The new traffic facilities will have adequate capacity to meet the traffic demands through the year 2000 with a level of service C or better.

The 1979 average daily traffic is shown on Figure 1-2. The year 1990 and 2000 predicted average daily traffic is shown on Figure 1-3.

Condition of Existing Facilities

The existing street network that links existing Cruse Avenue at Sixth Avenue to Neill Avenue is narrow (width varies from 28 to 40 feet) and requires two right-turns and three left-turns to travel in a south to north direction along Jackson Street. Cruse Avenue's present usage is very low due to the lack of a connection to the principal east-west and north-south arterials. The condition of the existing streets is generally good with localized exception in the form of cracking and wash-boarding. The existing pavement structure is not of adequate thickness to support the future traffic for a prolonged period of time.

North Last Chance Gulch between Neill and Lyndale Avenue does not have separate left-turn storage lanes; which in turn creates delays and reduces capacity. The older existing pavement structure, built in 1934, is estimated to have a useful life of eight years before requiring major reconstruction. A minor overlay was placed in 1980 improving the street surface.

North Last Chance Gulch between Lyndale Avenue and Montana Avenue is a two-lane, two-way roadway which is operating at or over its design capacity. The existing section has a limited life due to the heavy traffic volumes it carries. The bridge structures show signs of stress but have some useful life. Reconstruction of a two-lane, two-way roadway would not satisfy future traffic demands.

Although construction, if selected as the best alternative, may be years away, the evaluation of the projects will assist local planners, developers, business owners, and residents in planning their future activities. The early acquisition of right-of-way will forestall impacts that might arise in the intervening years.

SUMMARY OF PRIOR PLANNING ACTIONS

The following brief chronological history outlines the planning actions leading up to the current project status:

- 1968. The City of Helena received approval from HUD of the Model City's program. A team of consultants was hired to develop a plan for the Central Business District.
- 1969. Public hearings were conducted on the Last Chance Gulch Urban Renewal Plan. Major features of the Traffic Circulation and Public Parking elements of the plan were:
 - Reconstruct Park Avenue to a two-way, four-lane facility.
 - Relocate Jackson Street to the east and construct a two-way, four-lane facility (Cruse Avenue). Extend Jackson Street south to the north slope of Reservoir Hill, then westerly to connect Park Avenue. Jackson Street will be constructed so as to provide for a future bridge structure crossing over Park Avenue to span the Gulch.

- Extend Broadway Street to the west to connect Jackson Street and Park Avenue.
- Move Wall Street south approximately 60 feet and reconstruct to provide a connection between Jackson Street and Park Avenue.
- Improve Cutler Street to provide a future connection between Davis Street and Montana Avenue.
- Reconstruct Warren Street to provide access to the park area around Fire Tower Hill.
- Relocate 6th Avenue to provide for a right angle intersection at Park Avenue.
- Provide public access between the parking areas and Last Chance Gulch.
- Vacate Edwards Street, Grand Street, State Street, Miller Street, existing Jackson Street and all alleys in the area.
- The urban renewal project extended north to 6th Avenue, however it was recommended that the Jackson (Cruse) extension be completed to Neill Avenue.
- 1969. Helena Urban Transportation Study was initiated by the Montana Department of Highways.
- 1970. Construction of the Last Chance Urban Renewal Project began.
 - Last Chance Urban Renewal Project Street Improvements were completed.
 - Mass Transit Study completed.
- 1971. Mass Transit Demonstration Grant funded.
- 1973. Helena Urban Transportation Study was completed. Recommended priorities for arterial street projects ranked the extension of Jackson Street (Cruse Avenue) from Sixth Avenue to Eleventh as priority number 4, improvement of North Last Chance Gulch from Neill Avenue to Lyndale Avenue to four-lane with left-turn bays, priority number 3 and the improvement of North Main from Lyndale to Montana Avenue to four-lanes, priority number 8.
- 1975. The Helena Urban Transportation Study was adopted by the Helena City Commission. The final priorities for the current projects were:
 - Cruse Avenue - Sixth Avenue to Eleventh Avenue - priority number 4.
 - North Last Chance Gulch - Neill Avenue to Lyndale Avenue - full four-lane Divided Highway - priority number 3.
 - North Last Chance Gulch - Lyndale Avenue to Montana Avenue - full four-lane Divided Highway - not ranked by priority.
- 1977. Update of the Helena Urban Transportation Study is initiated by the Montana Department of Highways.
- 1977. A consultant was hired to prepare preliminary layouts for the Neill Avenue, North Last Chance Gulch, Helena Avenue and Eleventh Avenue intersection.
- 1978. Bikeway development plan completed. This plan has not been adopted.
- 1979. Helena Urban Transportation Study Update. Priorities established by the Technical Advisory Committee and the Policy Coordinating Committee were as follows:
 - North Last Chance Gulch - Neill to Lyndale - priority number 1.
 - Cruse Avenue - Sixth to Eleventh Avenue - priority number 1.
 - North Last Chance Gulch - Lyndale to Montana Avenue - priority number 2.

- 1980. A consultant was hired to prepare an environmental impact statement for extension of Cruse Avenue from Sixth to Eleventh, improvements at the Neill Avenue, North Last Chance Gulch, Helena Avenue and Eleventh intersection and improvements on Last Chance Gulch from Neill Avenue to Montana Avenue.

The Helena Urban Transportation Study, which is in the process of being updated, is the basis for the planning of this project. The Transportation Study has been extensively reviewed and coordinated with citizen groups (HCC or Helena Citizens Committee) and the local governmental agencies. Components of the plan include alternate transportation modes such as the mass transit system and the bikeway system.

TRAFFIC DATA

The Montana Department of Highways had developed a computer model of the Helena Street network using Origin and Destination Studies and updated economic and demographic data which was provided by the local planning agency to forecast future trip generation. Traffic projections are shown on Figure 1-3. The use of alternate modes of transportation to reduce vehicular traffic demands has been considered in projecting future transportation needs.

The Helena mass transit system is a semi-demand responsive system that serves primarily captive riders who have no other mode of transportation. The System is subsidized by the City and by grants from the Urban Mass Transit Administration. The number of vehicle trips per day that the transit system removes from the street system is negligible. The low density development patterns of the Helena residential areas are not feasible for mass transit service. A number of new residential developments have recently taken place and are planned for the rural areas surrounding Helena. Until these trends are changed, mass transit cannot economically make a significant impact on the travel modes in the Helena area. This is also the conclusion of a recent study conducted for the National Parking Association. Nationally, it is forecasted that transit vehicle-miles traveled will increase by 50 percent while ridership will increase by 16 percent. This is due primarily to continued suburbanization.

The City of Helena tested a commuter bus between the State Capital and the downtown area during the noon hour. Ridership was not sufficient to justify the service. Although transit ridership may increase in the Helena area, the increase will not be great enough to have a significant effect on the present modes of travel. The Montana Department of Highways has established a vanpool program. Three vans are presently transporting approximately 60 persons to and from work daily.

Bicycle use is increasing but is still not significant. Winter conditions preclude any sizeable year around usage.

A combination of alternate travel modes, flexible working hours, and voluntary reduction of travel which is a result of combining travel needs, have resulted in lower travel forecasts in the Updated Transportation Plan. Travel forecasts have decreased from a growth rate of approximately 4 percent annually in 1970 to 1 to 2 percent annually in 1979. The recommended improvements are based on these reduced traffic growth rates.

There are no street sections within the project corridors classified as a high accident location. Future traffic north of Neill Avenue on Last Chance Gulch, without improvements, will have unstable flow, low operating speeds with momentary stoppages. The section north of Lyndale Avenue carries more traffic, therefore, will have more congestion. The improved roadway section will increase traffic flow and safety by providing proper width lane, channelization, legible pavement striping, and traffic control.

TRANSPORTATION

Helena's transportation facilities include a modern airport, freight rail facilities, truck lines and bus service. Presently Northwest Orient, Frontier and Big Sky Commuter Airlines serve Helena providing transcontinental flights east-west and good connecting flights north-south.

Burlington Northern serves the City by rail with about 14 freight trains passing through the City daily. Four highways (U.S. 12, 91, 287 and I-15) fan out in all directions from Helena, leading to every other major Montana city or connecting transcontinental highways leading to any part of the nation. The proposed projects will improve access between the Central City, Airport, Interstate Highway and some of the rail yards.

PROJECT SYSTEM LINKAGE

Last Chance Gulch has historically been a principal traffic corridor serving traffic between the Central Business Districts and areas to the north. Prior to construction of Interstate 15, Last Chance Gulch and North Montana Avenue were the principal links for through traffic to the north. Eleventh Avenue provided the major east-west connector to areas east of the Central Business District. These two routes are currently designated as the I-15 Business Route. Eleventh Avenue connects to Euclid Avenue and points west via Neill and Benton Avenues (see Figure 1-4).

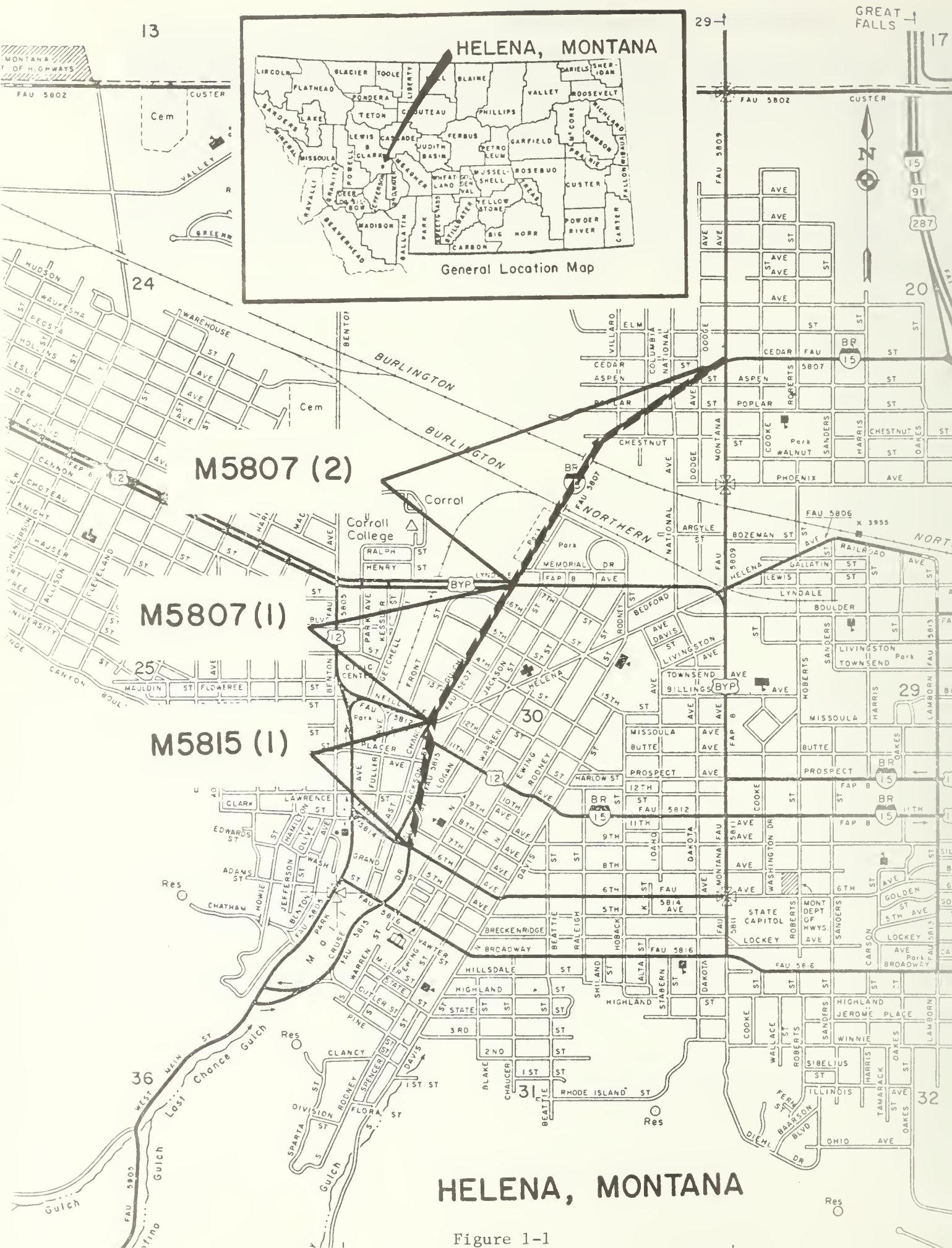
There is no continuous east-west connector south of Lyndale Avenue. Sixth Avenue and Broadway are the principal east-west links to the State Capital complex, however, both routes terminate at Park Avenue on the west side of the Central Business District. The proposed Cruse Avenue extension will provide an addition, north-south access to these streets. North Last Chance Gulch extends to Cedar Avenue and Montana Avenue providing a link to suburban areas north of Town, major shopping centers and the Helena Airport.

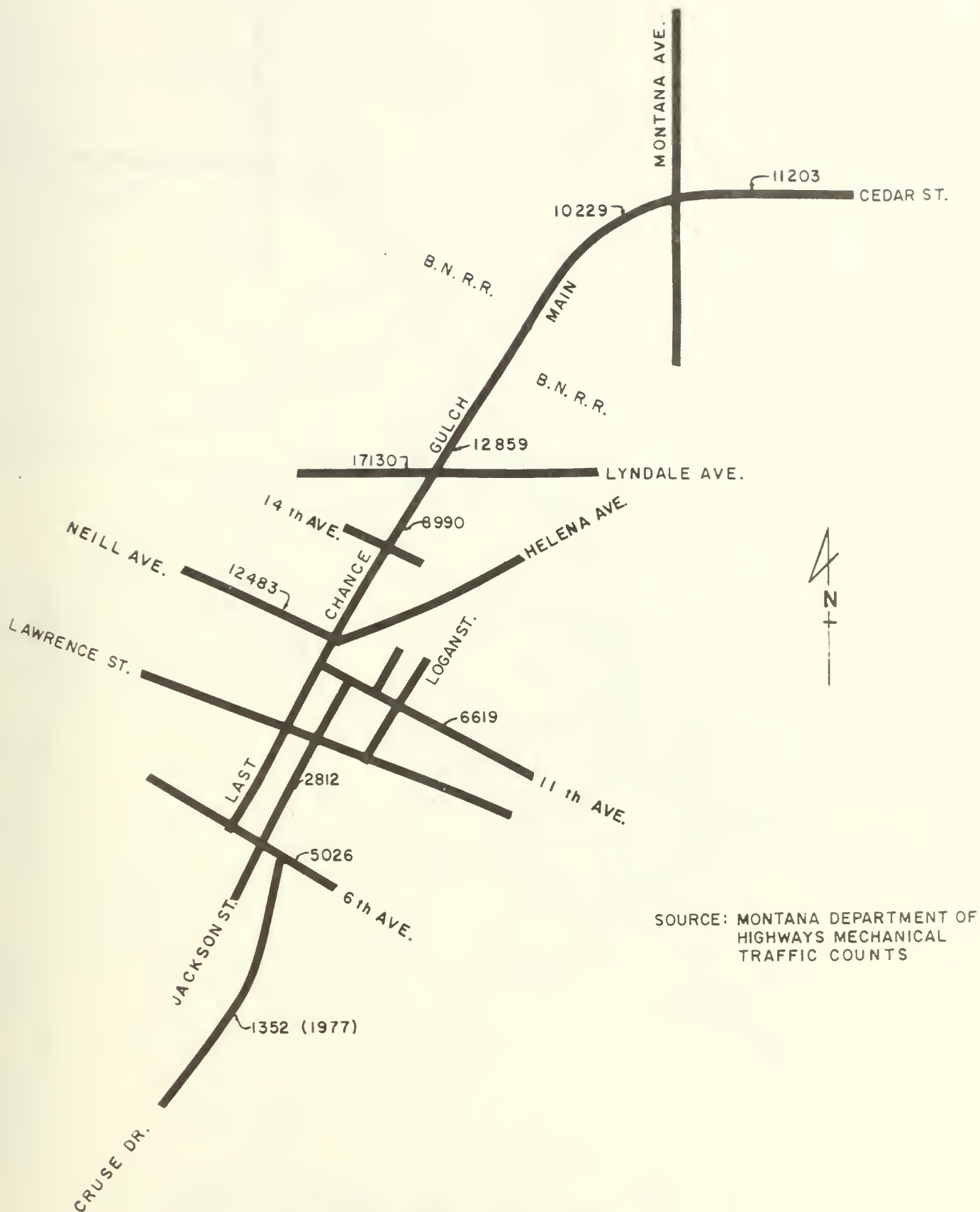
The Cruse Avenue extension will: 1) provide direct access from North Last Chance Gulch into the downtown area, 2) complete the loop around C.B.D., 3) provide a link for traffic to/from north of town to the Capital Complex via 6th Avenue or Broadway. North Last Chance Gulch provides one of only three grade separated railroad crossings in the Helena Urban Area.

Improvement of North Last Chance Gulch from Neill Avenue to Montana Avenue is required to meet future traffic demands. The section from Lyndale to Montana Avenue is presently operating over capacity.

SOCIAL DEMANDS AND ECONOMIC DEVELOPMENT

The overall goal for the Last Chance Renewal Project was based on the completion of a continuous access route around the downtown area. The goal of the Helena area transportation planners is to improve the accessibility to and from the downtown area. Both goals promote economic growth of the Central City and are consistent with the Presidential Urban Policy. Since the initiation of the Last Chance Renewal Project in 1969, approximately \$47.0 million has been spent in the downtown area. Approximately \$22.7 million was in the form of federally funded development and \$24.3 million was private development. The improved access provided by the Cruse Avenue and North Last Chance Gulch projects will enhance existing developments and encourage continued investment in the downtown area.





SOURCE: MONTANA DEPARTMENT OF
HIGHWAYS MECHANICAL
TRAFFIC COUNTS

FIGURE 1-2

1979 AVERAGE DAILY TRAFFIC

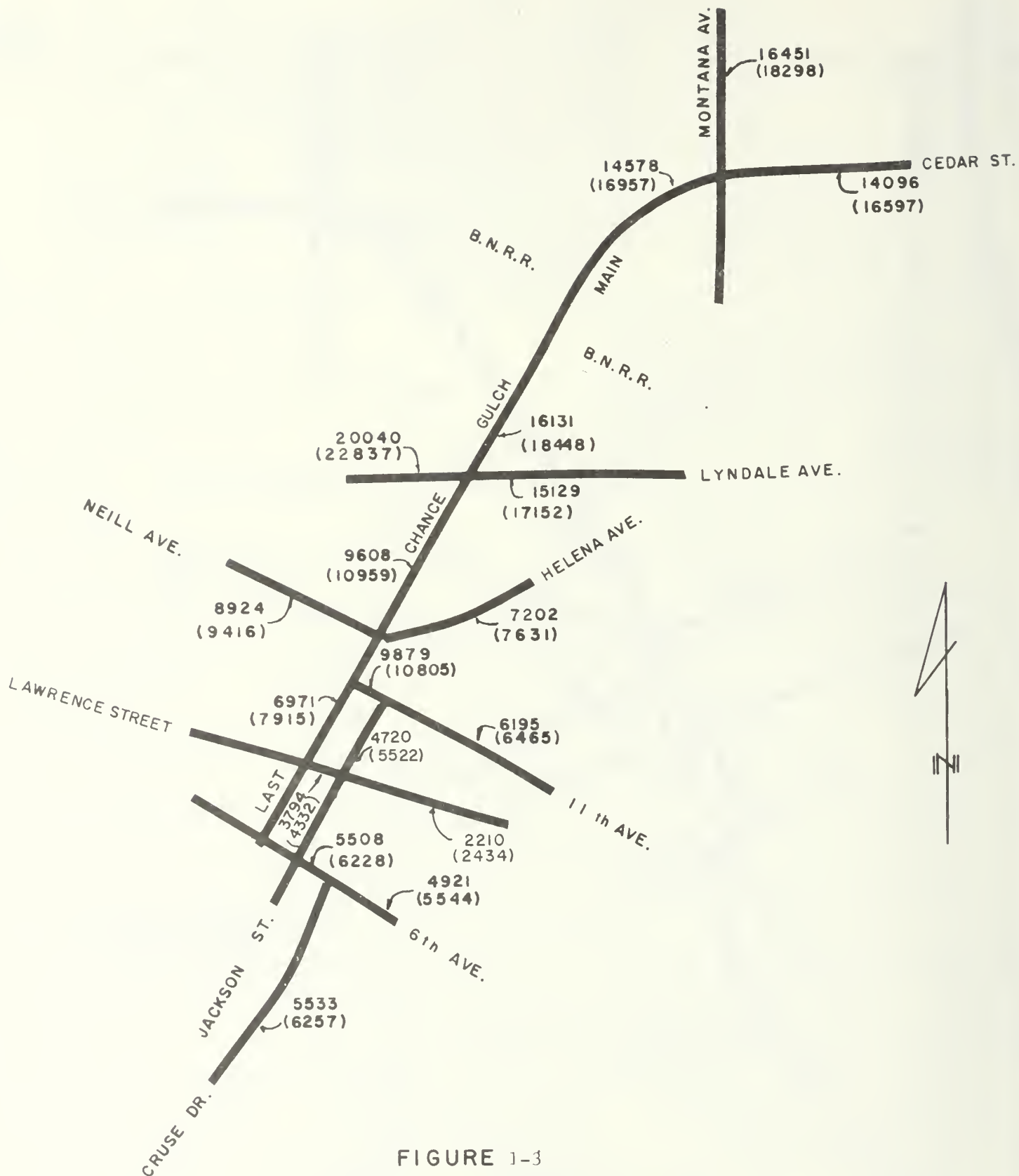
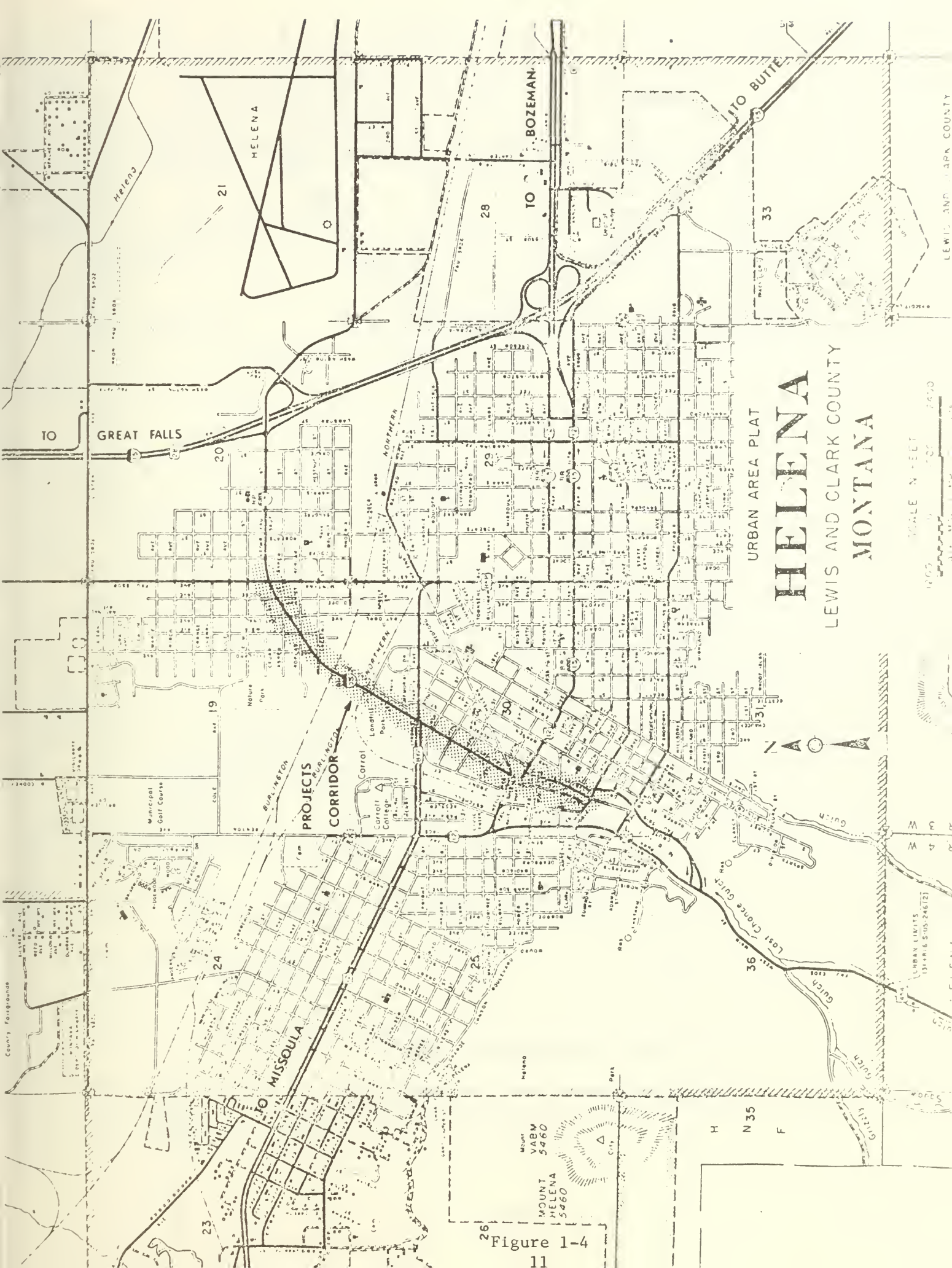


FIGURE 1-3

1990 AND 2000 AVERAGE DAILY TRAFFIC

YEAR 1990 — 000

YEAR 2000 — (000)



URBAN AREA PLAT

HELENA

LEWIS AND CLARK COUNTY
MONTANA

SCALE 1" = 100'

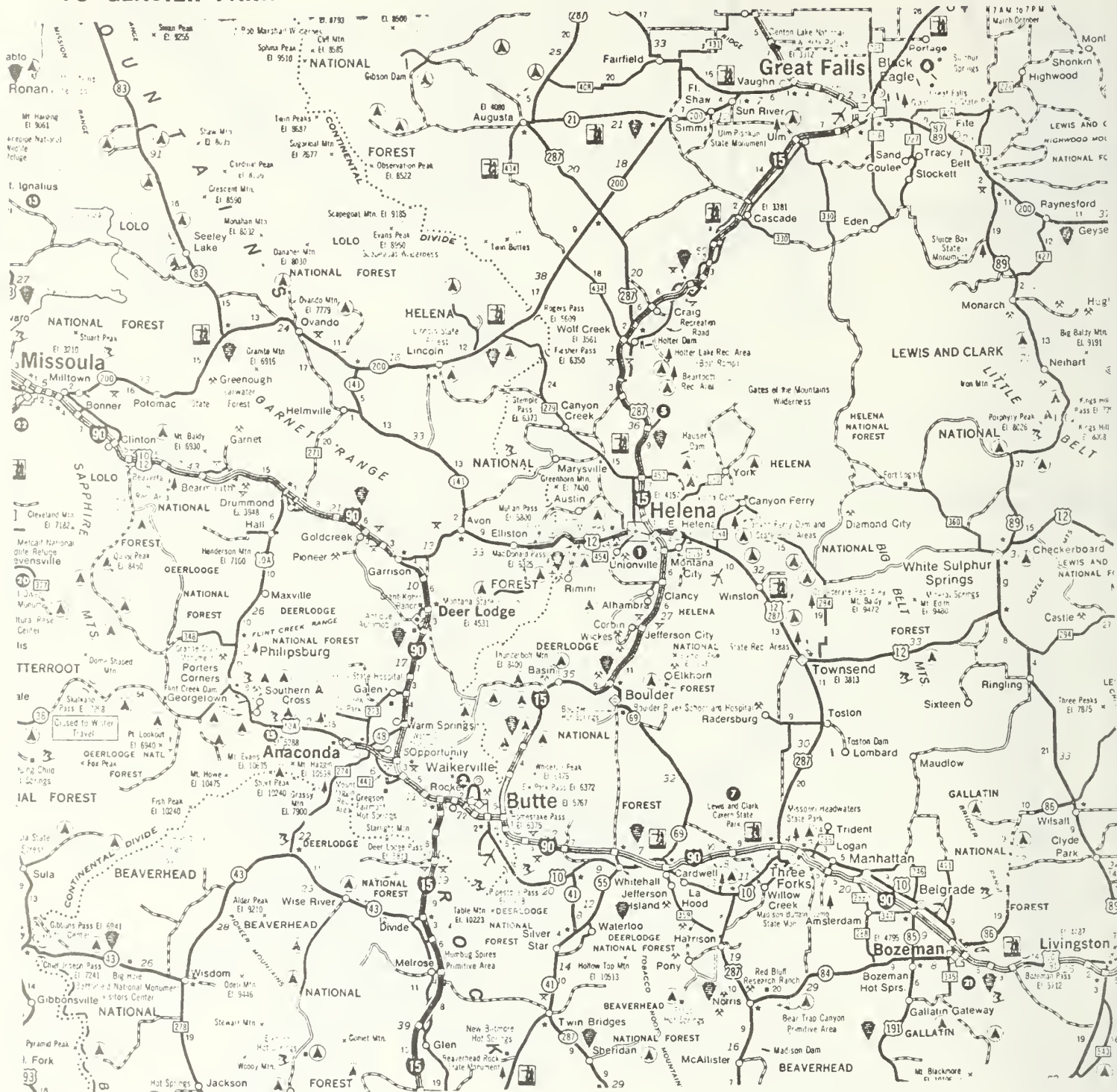
URBAN LIMITS
1514016 S-105-24612

Figure 1-4

TO GLACIER PARK

TO CANADA

TO HAVRE



TO IDAHO

TO YELLOWSTONE PARK &
WYOMING

MONTANA HIGHWAY MAP

ONE INCH REPRESENTS 22 $\frac{1}{2}$ MILES

CHAPTER 2 - ALTERNATIVES

INTRODUCTION

This chapter sets forth alternate improvement plans for each of the three Projects.

Impacts that are most readily compared are those to which a monetary value can be related. Social, environmental and impacts on community and regional planning goals and objectives are not so easily compared. These impacts should be viewed in light of public interest.

For all projects, money, labor and materials expended for implementation are irretrievable resources. The evaluation of the use of these resources should be made based on a comparison to alternate uses that may be of more benefit to the community.

The Areawide Planning Office was consulted on a regular basis during the process of alternate review and selection for the entire Project. The Areawide Planning Office provided valuable input regarding alternate alignment and impact considerations.

No decisions or commitments have been made concerning the implementation of a specific alternate.

ALTERNATIVES FOR CRUSE AVENUE EXTENSION PROJECT M5815(1)

Selection of Viable Alternates. An initial review was made to research and evaluate previous studies and alternatives considered prior to the authorization to proceed with the Draft E.I.S. In 1977 an engineering firm was hired to establish a preliminary alignment for Cruse Extension with emphasis on the connection to 11th Avenue and Neill Avenue. Alternate 1 of this report was considered by the City Staff as the best overall solution. In 1977 travel forecasts were considerably higher than current projections. Since that time traffic volumes have shown a slower rate of growth. This has resulted in lower traffic projections. Also, the conversion of Park Street from one-way to two-way operation has contributed to a decrease in traffic on Neill Avenue and Last Chance Gulch. The forecasts used in this analysis are substantially lower on 11th Avenue, Last Chance Gulch and Neill Avenue than those used in the 1977 study. This allows new alternate designs to be considered.

Approximately 25 alternate routes and various intersection configurations have been reviewed. Alternates considered came from previous studies, public input, City of Helena staff, and the Consultant.

A project Steering Committee was formed to review all alternates and the related impacts. The Committee is composed of representatives of the Helena Chamber of Commerce, the Areawide Planning Organization, the Helena Improvement Society, City of Helena, Montana Department of Highways, the Federal Highway Administration, and the Helena Citizen Committee.

The Committee concurred in the selection of the four, viable, build alternates presented in this document. The alternate improvement plans under consideration are evaluated in the following section with respect to traffic capacity, user benefit and user cost or delay time.

Cruse Avenue Extension - 6th Avenue to Lawrence Street

Description. For all alternates the new Cruse Avenue alignment between 6th Avenue and Lawrence Street is the same. The project begins at the northern terminus of existing Cruse Avenue and extends north along Allen Street and the west side of the property formerly owned by the Central School to its intersection with Lawrence Street.

The typical section will consist of two 12 foot driving lanes, a 14 foot wide painted median with turning bays and two 10 foot parking lanes. Integral curb and gutter will be provided on each side. Between Sixth Avenue and Lawrence Street the sidewalks will be 6 feet in width. The right-of-way width will be 70 feet. The narrow sidewalk will lessen the impact of cut and fill sections and encroachment on existing buildings. The 14 foot median is recommended to provide left-turn lanes at intersections. Without the auxiliary lane for storage there would be inconvenience and considerable loss in efficiency of operation.

Between Lawrence Street and Neill Avenue the sidewalks will be 8 feet in width. The right-of-way width will be 74 feet. (See Figure 2-1.)

Street alignment in commercial areas should be direct as possible. Street curves should be designed with as large a radius as feasible. The minimum horizontal roadway centerline curvature proposed is a 358 foot radius. The desirable gradient design should be 7 percent or less. Since the proposed alignment is on a sidehill where existing streets and cross slopes vary from 6 to 10 percent, the maximum recommended gradient will be exceeding in some reaches but will be minimized by vertical curves. To minimize cut and fill, the new roadway will be sheet graded.

The existing City storm drains at the intersection of Neill Avenue will be modified and extended to serve any new intersection configuration. Street lights will be included in the project.

Capacity. Projected 2000 traffic volumes on this section range from 3,600 to 4,000 vehicles per day (vpd). The proposed street section with two driving lanes and two parking lanes has a capacity ranging from 9,000 to 9,500 vpd. This capacity assumes that 35 percent of the green time at cross streets would be allocated to Cruse Avenue and the remaining 65 percent to the cross streets which would be 6th Avenue and Lawrence Street. The capacity of Cruse Avenue could be increased by increasing its green time allocation.

Based on year 2000 traffic estimates, the intersection of 6th Avenue and Cruse Avenue would meet minimum vehicular volume signal warrants by the year 2000. A signal should not be installed until actual traffic counts show that it is warranted. Cruse Avenue would be STOP sign controlled until the intersection is signalized.

The intersection of Lawrence Street and Cruse Avenue will not meet the minimum vehicular signal warrants by the year 2000 unless traffic is diverted from 11th Avenue to Lawrence Street as proposed in Alternate 2. Cruse Avenue would be STOP sign controlled for Alternates 1, 3, and 4.

Traffic assignments for each alternate are shown in Figures 2-11 through 2-14.

Right-of-way. The new alignment will utilize most of the existing 40 foot right-of-way of Allen Street. Total platted property required is approximately 1.6 acres. Two commercial buildings lie within the proposed alignment. Part of the existing parking lot will be needed for roadway. It will be necessary to replace the parking spaces taken for right-of-way due to the method used to allocate parking district assessments. To minimize property taking, retaining walls will be utilized in areas of excessive cut and fill.

Seventh Avenue between Jackson Street and Allen Street will be closed and the right-of-way converted to off-street parking.

Estimated Cost. Total estimated cost of this segment is \$963,000. This includes \$353,000 for construction, \$514,000 for right-of-way and relocation, \$25,000 for utility modification and \$71,000 for engineering and contingencies. The costs include expanding the A & J Parking Lot north to replace spaces taken for right-of-way.

Cruse Avenue Extension - Lawrence Street to Neill Avenue

Four alternatives were chosen as the most viable based on traffic flow, amount of disruption to existing developments, cost and user benefit. The four alternate plans are shown in Figures 2-5 through 2-8. Each project is described in the following section. Comparable operation characteristics and costs are shown in Table 2-1.

Alternate Number One - Description. Cruse Avenue would extend north at Lawrence Street on a new alignment and connect with Last Chance Gulch midway between Placer Street and existing Eleventh Avenue. Eleventh Avenue would deflect northwesterly from Jackson Street to connect at Helena Avenue (see Figure 2-5). A maximum grade of 8 percent on Eleventh Avenue, will be minimized by vertical curve correction. The existing grade of Eleventh Avenue in this area is 10 percent.

Total platted property required is approximately 2.8 acres. Nine commercial buildings and two residences will be taken. Placer Avenue between Jackson Street and Last Chance Gulch and existing Eleventh Avenue between Jackson Street and Last Chance Gulch will be closed to traffic. Jackson Street between Lawrence and Cruse will be open at Lawrence Street to provide service and access to adjacent properties. Jackson Street between Cruse and 11th Avenue would function as a driveway to serve adjacent properties. The alley west of Jackson Street between 11th Avenue and Helena Avenue would not have access to the new 11th Avenue alignment.

The intersection curb return radius on the northeast corner of Helena Avenue and Last Chance Gulch (Steamboat Block) will be enlarged to more favorably accommodate right-turn movements. This improvement will be common to all four alternates.

Alternate Number Two - Description. Cruse Avenue would extend north to Placer Avenue then deflect along Jackson Street to Eleventh Street then deflect northwesterly to connect at Helena Avenue. Eleventh Avenue would be diverted between Warren and Ewing Street to the southwest to connect onto Lawrence Street at Warren Street. A connection to 11th at Warren Street would remain but the connection of Eleventh Avenue at Jackson Street would be severed (see Figure 2-6). Cruse Avenue would have a maximum grade of 8 percent from 11th Avenue to Helena Avenue. This would be minimized by vertical curve correction.

Total platted property required is 4.1 acres more or less. Three commercial buildings and two residences will be taken. Also included in the taking is the former St. Helena School which now serves as the program office for several government departments and the adjacent Catholic Center Building. The taking of the Church Property could be staged or delayed for later construction by directing traffic to Lawrence Street along Warren Street by using the present street grid.

The ninety (90°) degree turn at Eleventh Avenue and Warren Street would be a bottleneck, slowing traffic to well below the design speed of the rest of the street. If this alternate is selected based on the staged subalternate, the improved connection through St. Helena School would be programmed for future improvement.

Jackson Street would connect to Placer Avenue and would function as a local access street. The alley west of Jackson Street between 11th Avenue and Helena Avenue would not have access to New Cruse Avenue.

Alternate Number Three - Description. Cruse Avenue would extend north from Lawrence Avenue to Last Chance Gulch on the same alignment as Alternate One. Eleventh Avenue would deflect southwesterly from Jackson Street to connect at Cruse Avenue/Last Chance Gulch about 300 feet south of Neill Avenue (see Figure 2-7).

Total platted property required is approximately 2.3 acres. Seven commercial buildings will be taken. Placer Avenue between Jackson Street and Last Chance Gulch and existing Eleventh Avenue between Jackson Street and Last Chance Gulch will be closed to traffic. Jackson Street, between Lawrence Street and Cruse Avenue, will be open at Lawrence Street to provide access to adjacent properties.

Alternate Number Four - Description. Cruse Avenue would extend north from Lawrence Street to Last Chance Gulch on the same alignment as Alternate Two. Eleventh Avenue would connect to New Cruse Avenue. Eleventh would also remain open between New Cruse and Last Chance Gulch but would be limited to two, one-way westbound traffic lanes. The north approach to Eleventh Avenue at Jackson Street would be severed and a cul-de-sac would be constructed. (See Figure 2-8.) The existing vertical grade of Eleventh Avenue between Jackson Street and Last Chance Gulch would remain at 10 percent. The east approach of Eleventh Avenue to New Cruse Avenue would be reconstructed. A maximum grade of 8 percent on the Eleventh Avenue approach to Cruse Avenue and 9 percent on the Cruse Avenue approach to Helena Avenue would be minimized by vertical curve correction. The steep grades will require increased winter maintenance.

Total platted property required is approximately 2.5 acres. Three commercial buildings and three residences will be taken. Jackson Street would connect to Placer Avenue and would function as a local access street. The alley west of Jackson Street between Eleventh Avenue and Helena Avenue would not have access to New Cruse Avenue.

Staged Construction Cruse Avenue. Due to funding limitations, consideration is given to staged construction. The options offered will reduce the financial impact of the project implementation while providing steps to complete the facility.

A general sequence for staged construction would be:

- Acquisition of full right-of-way.
- Clearance of right-of-way.
- Construct Cruse Avenue from Sixth Avenue to Lawrence Street.
- Construct Cruse Avenue to Eleventh Avenue using Alternates 2 or 4.

The option of early acquisition of right-of-way would minimize impacts to future development and would reduce future expenditures for escalating property values and relocation costs.

Minor Alternatives

Alternate A. The existing street grid has been operating as the link between the terminus of Cruse Avenue at 6th Avenue to Neill Avenue since 1974. The condition of the existing streets is generally good with localized exceptions in the form of cracking and wash-boarding. Immediate reconstruction of the roadway surface is not recommended but the existing pavement structure is not of adequate thickness to support the future traffic projection for a prolonged period of time.

To upgrade the existing facilities to improve capacity and safety the following improvements would be required:

- Channelize the intersection of 7th Street and Jackson Street.
- Remove parking on Jackson Street between Lawrence Street and Eleventh Avenue.
- Cut back the southeast corner of the intersection of 11th Avenue and Jackson Street to improve sight distance to the east. Right-of-way would be required.
- Widen the south approach of Last Chance Gulch to add right-turn only lane onto Helena Avenue. Additional right-of-way would be required.
- Sign the east approach of Eleventh Avenue at Warren Street to divert traffic to Central Business District and points south via Lawrence Street.

Alternate B. This minor alternate would utilize the existing street network but change the operation of Jackson Street between 6th Street and Eleventh Avenue from two-way to one-way northbound. Parking would be removed from Jackson Street between Lawrence Street and 11th Avenue. Main Street would continue to operate one-way southbound.

The same minor improvements as recommended for Minor Alternate A would be made.

Traffic now using Jackson as a southbound route from 11th into the C.B.D. would be routed onto Main Street. This would amount to 2,800 vpd by the year 2000 and increasing the volume on Main Street between 11th and Lawrence from 7,900 vpd to 10,700 vpd. The present capacity of Main Street in this section is 11,200 vpd.

The one-way operation of Jackson Street would increase the capacity of the 28 foot section from Lawrence to 11th Avenue from the present capacity of 3,200 vpd to 6,200 vpd. This is adequate to handle year 2000 traffic which

is estimated to be 5,500 vpd, not taking into account southbound traffic that would be rerouted onto Main Street.

No-Action Alternative

The no-action alternative consists of continued maintenance of existing facilities and the continuation of existing transportation policies.

Yearly maintenance activities of the existing corridor are not a matter of record. There will be the continuing activity of filling potholes, replacement of segments of pavement, and restriping as conditions dictate. Immediate reconstruction of the roadway surface is not warranted at this time. The City of Helena maintains a five year improvement program for all City streets to protect previous investments and to preserve and extend the pavement life. The improvements are based on need, and consist of crack filling, seal coat, overlay, and other minor repairs.

The existing corridor capacity ranges from 3,200 to 5,300 vpd. Projected volumes for the Cruse Avenue corridor would exceed the possible capacity of some sections of the existing street system resulting in severe congestion and the diversion of traffic onto other streets. Since there are no parallel streets providing two-way access to the east side of Main Street, an increasing amount of around-the-block traffic would be generated. One of the major impacts of the no-action alternative would be a decline in business along Jackson Street and the east side of Main Street due to increased congestion.

The no-action alternative does not conform to the C.B.D. redevelopment plan in that it does not improve C.B.D. access. This does not conform to the President's memorandum to the Secretary of Transportation which requires that urban transportation projects be used to enhance urban revitalization.

Comparisons of operational characteristics, construction costs, and user benefits for each alternative are made in Tables 2-1 through 2-5 at the end of this chapter.

Advantages/Disadvantages

This project is the completion of an arterial loop around the downtown area which was begun under the Urban Renewal Program. This section when completed will provide major circulation within the Central Business District. Cruse Avenue's present usage is very low due to the lack of a north connection to the principal east-west and north-south arterials.

The existing street network that links existing Cruse Avenue to Neill Avenue is narrow (width varies from 28 to 40 feet) and requires two right-turns and three left-turns to travel in a south to north direction along Jackson Street.

The minor or no-action alternative does not conform to the Central Business District redevelopment plan in that it does not improve access nor does it enhance urban revitalization.

Under the build alternates the "PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED" are as follows:

- The taking of right-of-way, commercial buildings and residences.
- Relocation of individuals, families and businesses.

- The taking of buildings and construction of a new roadway within the Helena Historic District.
- Removing or altering the setting of buildings that are eligible or potentially eligible to be listed in the National Register.
- Noise will increase as traffic increases but will stay within acceptable standards.
- The construction process will disrupt the area and necessitate detours and traffic delays.
- Air pollution will occur and noise will increase during the construction process.

The following is a discussion of the Build Advantages:

- The completion of the Central Business District loop consisting of Cruse Avenue and Park Avenue, provides peripheral access to parking facilities which is an integral element of the C.B.D. urban renewal project. Parking will be allowed on Cruse Avenue Extension until future traffic volumes dictate removal.
- Cruse Avenue would connect directly to North Last Chance Gulch and North Main which is programmed for improvement and which provides a railroad grade separated crossing allowing good access to the valley area.
- Cruse Avenue would provide a direct link between the C.B.D. and 11th Avenue and Neill Avenue which are principal east-west arterials.
- The transportation facility will have an indirect economic effect by inducing development which will increase taxable value of properties in the area.
- Accessibility effects the cost of establishing or doing business. A transportation project may make it feasible and profitable for a business to locate in an area or to expand.
- At the present time 42 percent of the traffic on the south approach of the Neill Avenue, Helena Avenue intersection turns left onto Neill Avenue. Alternates 1, 2, and 4 will connect 11th Avenue and/or Cruse Avenue directly into the intersection and will make this a through movement, eliminating the heavy left-turn condition.
- Access to all property will be maintained.
- Alternate 2 will direct traffic into the downtown area. It is predicted that by the year 2000 that 50 percent of the traffic will be destined this direction.
- Community cohesion will be enhanced with the project. The facility will protect existing business developments and avoid additional economic decay.
- Accessibility will be an improvement to public, private and non-profit facilities and services. The convention - motel - hotel needs of the Central Business District will be benefited.
- Grassed strips and mature trees removed or disrupted by construction will be replaced. Open space will be contour graded, seeded and landscaped with trees and shrubs.

Build Disadvantages:

- Probable adverse environmental impacts which cannot be avoided have been addressed.

- Five legged intersection at Neill Avenue is difficult to signalize and will result in longer delays for all traffic entering the intersection.
- Alternate 1 increased travel time for traffic on 11th Avenue that is destined for the downtown area.
- Alternate 2 routes traffic on 11th Avenue heading northwest or east out of direction. Increased traffic on Lawrence Street will require a signalized intersection at Cruse and Lawrence Street. Traffic on Lawrence Street will create a barrier in front of the Cathedral of St. Helena.
- Alternate 3 requires an additional signalized intersection at 11th Avenue and Cruse Avenue. There is limited storage between intersections. The intersection at 11th Avenue will be sloped east to west, also the large surface area of the intersection will create maintenance and drainage control problems.
- Alternate 4 requires an additional signalized intersection at Cruse Avenue and 11th Avenue. Vehicle storage on the south leg will be inadequate by the year 2000 and will require that the two intersections be closely coordinated in order to clear traffic between intersections. Peak or unusual traffic demands will create backup. The vertical grade west of Cruse Avenue on 11th will be 10 percent. Cruse Avenue at 11th will have 7 percent cross slope. Constant winter maintenance during icy conditions will be required to keep the intersection operational.

The following is a discussion of the Minor Alternatives:

Alternates A & B

Advantages:

- Does not disrupt existing land use and usage patterns.
- Does not require displacement of businesses and residences.
- No direct impact on historical and cultural sites.
- Utilize existing facilities with increase in operational efficiency.

Disadvantages:

- Does not provide a continuous access route into the downtown area.
- Does not complete the Central Business District loop.
- Result in the loss of on-street parking along the existing streets.
- Alternate B results in increased traffic on Main Street which is presently congested due to on-street parking and deliveries.

The following is a discussion of the No-Action Alternatives:

Advantages:

- Does not disrupt existing land use and usage patterns. Does not require displacement of businesses and residences.
- No direct impact on historical and cultural sites.
- Requires no major expenditure of funds.

Disadvantages:

- The area is still the business heart of the City; therefore, transportation links take on an added importance. Major urban areas are experiencing decentralization of retail sales. This is evident by the recent planning of shopping centers. The existing C.B.D. will be strengthened by completion of the access loop.
- Projected volumes for this corridor would exceed the possible capacity of some sections which will result in congestion and diversion of traffic onto other Streets. There will be increased travel and time delay in this corridor.
- Proposed land development projects are predicated on the assumption that a transportation project will be built. A no-action decision can have short-term impacts as speculation in the area subsides.

ALTERNATIVE FOR PROJECT M5807(1) NORTH LAST CHANCE GULCH - NEILL AVENUE TO LYNDAL AVENUE

Description. This project has been assigned priority number one along with Cruse Avenue Extension by the Helena Policy Coordinating Committee. The purpose is to develop a typical section which would be capable of handling projected traffic volume to the year 2000. The proposed reconstruction would utilize the entire width of the existing seventy-foot right-of-way. Acquisition of additional right-of-way does not appear to be necessary, however, construction permits may be required. Street lighting will be included. (See Figure 2-9 and Cruse Avenue Alternates.)

The existing roadway is 54 feet curb-to-curb. The street operates as a two-way, two-lane street with parking on both sides. The driving lanes are 17 to 19 feet wide which encourages passing on the right of left-turning vehicles. The curbing is intermittent with over 1,000 lineal feet of uncontrolled access. There are 22 private driveways in the sections where curb exists.

The concrete section has considerable surface wear with random transverse cracks and settlement. The paved shoulder condition varies. The critical pavement section based on anticipated life cycle is in the shoulder/parking area where the thickness of asphalt is only 3.6 inches supported by a clayey sand subgrade. An asphaltic concrete overlay was placed during the summer of 1980 on the center 30 foot section, between Neill Avenue and 16th Street. This overlay improved the riding surface and added slightly to the section's structural strength.

The section north of 16th Street to Lyndale Avenue was reconstructed under a TOPICS project about five years ago and is in very good condition.

Based upon projected average daily traffic, the older existing pavement structure is estimated to have a useful life of eight years before requiring major reconstruction.

An overlay of 4 inches of asphaltic concrete surfacing would provide adequate support for the expected traffic conditions. However, to minimize reflection cracking of the concrete section, a 3.5 inch crack relief barrier should be added with a 2 inch dense graded asphaltic surfacing course. The crack relief must be well drained, necessitating the installation of longitudinal subsurface drains near the edge of the pavement to collect water and transport it to a suitable discharge point.

Since the existing curb grade is controlled by the first floor elevation of adjoining buildings, the amount of overlay material that can be added is limited. The reconstruction build alternate is based on removal of the existing pavement and maintaining the existing grade as established.

A new uniform parabolic section will eliminate drainage patterns that have been established away from the curb. New integral curb and gutter will be installed in place of the existing long stretches of drive-over curb and where no curb exists. Sidewalks on both sides will be programmed the entire length of the project. Existing curbs and sidewalks that conform to established grades and are in satisfactory structural condition will remain in place. Private driveways will remain where they conform to local codes.

Capacity. The projected year 2000 traffic volumes on this section range from 11,000 to 12,000 vpd. The design capacity of a 54 foot curb-to-curb, two-lane, two-way arterial street with parking ranges from 11,600 to 12,400 vpd. The proposed section with a continuous median would be adequate to handle traffic to the year 2000. At that time, it may be necessary to remove parking. No parking would be allowed on the north approach to Neill Avenue and the south approach to Lyndale Avenue to provide for an additional turn bay.

Estimated Cost. Total estimated cost of this segment is \$385,500 which includes engineering, construction and utilities. The cost is based on 50 percent of the curbs and sidewalks remaining in place.

Minor Alternative

The center 30 foot section was overlayed by the Department of Highways during the summer of 1980. The exact thickness is unknown but the result was a smooth surface that could be painted for a 10 foot wide median to provide a left-turn lane. Sidewalks and curb/gutter should be installed where none exist and at the long stretches of drive-over curb. These improvements would increase the capacity from 8,000 to 10,600 vpd. Safety would be increased by elimination of left-turns from the driving lanes. Traffic could be diverted to the outer edge of the concrete pavement base and the outside portion of the driving lane would be along the inconsistent built-up shoulder area. No improvements would be made to the majority of existing sidewalks. Higher maintenance cost would be anticipated.

Estimated Cost. The total estimated cost for the minor upgrading is \$65,300. This cost includes engineering and contingencies.

No-Action Alternative

The no-action alternative consists of the maintenance of existing facilities and services, and the continuation of existing transportation policies.

Yearly maintenance activities of this segment are not a matter of record. The cost of the 1980 summer overlay project between Neill Avenue and 16th Street was \$9,000 and was necessary as part of a "life cycle maintenance strategy".

Capacity. The existing facility can handle traffic volumes ranging from 7,400 to 8,700 vehicles per day which will be exceeded by the year 1990.

By the year 1990 the probable level of Service will be E. The overall travel speed will be in the area of 15 mph with unstable flow and continuous backup. This segment is a major link between the Central Business District, residential areas north of Town, major suburban shopping centers, the Interstate Highway and the Helena Airport. (See Figure 1-4.) Additional activity due to commercial buildup will increase congestion along this corridor. Streets parallel to this route are not adequate to carry increased traffic that might be rerouted due to congestion.

Comparisons of operational characteristics, construction costs, and user benefits for each alternate are made in Tables 2-1 through 2-5 at the end of this Chapter.

Advantages/Disadvantages

The existing roadway would be reconstructed utilizing the entire right-of-way. The new typical section would be capable of handling projected traffic volume to the year 2000. Acquisition of additional right-of-way does not appear to be necessary, however, construction permits may be required.

"PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED" are as follows:

- Slight increase in noise levels but within acceptable standards.
- The construction process will disrupt the area and necessitate detours and traffic delays.
- Air pollution will occur and noise will increase during the construction process.

Build Advantages:

- The increased capacity will provide accessibility to adjacent business and provide a facility that will link the Central Business District and the area north of Town, including residential areas, major suburban shopping centers, industrial sites, the Interstate Highway and the Helena Airport area.
- All private access will be maintained subject to compliance with City Codes. New curb where there is presently no access control will increase safety.
- On-street parking will be allowed.
- The facility will enhance existing business developments and encourage traffic oriented business.
- By the year 2000 the two-lane facility will be at capacity. If necessary for added capacity, the parking could be removed; the typical section could be restriped as a four-lane, two-way roadway.

Build Disadvantages:

- The probable adverse environmental impacts have been addressed.
- Some existing access will be closed where there is presently no access control.

The following is a discussion of the Minor or No-Action Alternatives:

Advantages:

- Requires no major expenditure of funds.

Disadvantages:

- Relocating the traffic lanes as proposed under the minor alternate:
 - Higher maintenance costs due to relocation of driving lanes on the built-up shoulder.
 - Existing surface drainage pattern away from the curb in some segments will be a hazard to vehicles in the outside driving lanes.
- The existing roadway was initially constructed in 1934, 48 years ago, and it is estimated to have a useful life of eight years before requiring major reconstruction. Curb grade adjustment for future overlay projects is not possible in some segments. The minor or no-action decision will delay the timing of the inevitable reconstruction.
- The no-action decision will not forestall increase in traffic as predicted. Future traffic will experience unstable flow, continuous backup and time delay. Employment, income and business activity along the corridor may be affected if future congestion forces traffic elsewhere.

ALTERNATIVES FOR PROJECT M5807(2) NORTH LAST CHANCE GULCH (NORTH MAIN STREET) LYNDALE AVENUE TO MONTANA/CEDAR AVENUE INTERSECTION

Description. The Policy Coordinating Committee has assigned second priority to this Project. The purpose of the Project is to develop a facility capable of meeting the future traffic demands and to derive maximum utilization of the grade separated railroad crossing.

The Project begins at the intersection of Lyndale Avenue and extends north along North Last Chance Gulch (North Main Street) about 0.82 miles to the intersection of Montana Avenue and Cedar Street.

The existing facility is a two-lane roadway, 30 feet in width with the center 20 feet being the original concrete section. The concrete section was surfaced with approximately 1 inch of asphaltic concrete prior to the overlay program during the summer of 1980. The shoulder from Lyndale Avenue to the north railroad overpass is surfaced with approximately 1 inch of asphaltic concrete with 1.1 feet of gravelly sand fill, supported by a silty clay subgrade. From the north railroad overpass to Montana Avenue the street is surfaced or overlaid with 1 to 5 inches of asphaltic concrete. The paved shoulders have a subgrade of 2.0 feet of silty sandy clay and very dense sandy gravel fill. There are few cracks and some wash-boarding of the surface. The 1980 overlay program ended at Chestnut Street.

The bents, abutments and girders of the existing two-lane railroad structures have hairline cracks and concrete is spalling along the girders. Some rebar is exposed. The north bridge abutments show signs of shear stress. In general, both bridges are generally in fair to poor condition.

The viable build alternate was evaluated on the basis of environmental, physical, cost and land use consideration. Parking lanes were eliminated for the entire length of the project.

It is the responsibility of the Federal Highway Administration to avoid taking Park Properties. If this is unavoidable, then they must take measures to minimize harm to Park Properties and incorporate all practical measures

to achieve this into the facility design. The design considerations in and adjacent to the Parks are summarized by the letters addressed to the City of Helena requesting a "determination of significance" and their response in Chapter 4, "Environmental Consequences" pages 76 to 83.

The Burlington Northern Railroad in 1978 stated subject to construction of new highway bridges the required vertical clearance would be 23.5 feet for the spur track (south structure) and 26.0 feet for the mainline (north structure) and the spur line could not be eliminated. The design consideration and impacts presented to the City of Helena addressed construction based on two new structures with the requested clearance. Subsequently the Burlington Northern revised their future electrification needs for the mainline and reduced the vertical clearance requirements to 23.5 feet. The existing clearance for the spur line is 20.2 feet and 22.4 feet for the mainline. The proposed grade on Figure 4-2 is based on the latest required clearance subject to construction of two new four-lane structures. If a two-lane parallel independent structure is constructed, then the existing horizontal and vertical clearance from the tracks could be maintained. Consideration of the add two-lane structure became apparent subject to: 1) reduction of bridge and roadway cost, 2) lessen impact on Montana Power Facilities, 3) reduce right-of-way requirements and 4) improved handling of traffic through the area during construction. A subalternative is considered based on maintaining existing grades, construction of new two-lane independent structures and the reconstruction of the existing bridge decks to meet present design loading criteria. Since the subalternative is based on improvements to the existing structures to meet new loading criteria and to extend life expectancy, a future indepth engineering study will be required subject to a recommendation to proceed with a new four-lane roadway. Also during the review of this document, further consideration might be given to construct a median for the entire length of the project.

The Draft E.I.S. addresses the cost and impacts of all three construction possibilities to forestall revising this document if reconstruction of the existing bridges is not feasible and medians are recommended for the entire length of the Project.

The Helena City Commission has authorized the Public Service Department to investigate a new roadway to link Custer Avenue to North Main Street by extending McHugh Drive to the south. The purpose is to create an additional connection to the valley area. The ties to North Main Street, either at Aspen Street or between Chestnut Street and the Burlington Northern trackage, has not been determined. The projected traffic volumes take this link into consideration. The impact of this new roadway and right-of-way needs will be addressed by the City when the plans are finalized.

Capacity. The projected year 2000 traffic on this segment ranges from 17,000 to 18,000 vpd. A four-lane, two-way arterial street has a capacity of 19,600 to 20,000 vpd.

Right-of-way. Total additional property required is approximately 1.7 acres. In addition to this, construction permits will be required within the Park Property. Approximately 10 feet will be required on both sides of existing right-of-way between Lyndale Avenue and Memorial Drive, for the wider section. Right-of-way acquisition will be necessary in Bausch Park for the alignment offset at the south bridge structure. Land will be needed to the west from the Parks to Chestnut Street. Also, four small parcels along North Main Street are needed to install intersection curb returns created by the 30 foot radii that are recommended.

Estimated Cost. Total estimated cost of this segment is \$3,079,100. This cost includes \$1,011,300 for roadway construction, \$1,322,800 for two new railroad structures, \$116,000 for utilities, \$162,000 for right-of-way and \$467,000 for engineering and contingencies. No buildings will be acquired. The cost does not include the request of the City of Helena to improve access to Memorial Park from Lyndale Avenue on Ewing and Logan Streets.

Access Control. To control access and improve safety the following existing access will be modified:

- National Guard Armory parking lot entrances will be restricted to right-turn only.
- Memorial Drive will be restricted to right-turn only.
- Existing entrance to Memorial Park will be moved north to point opposite Bausch Park entrance. This will eliminate the offset intersection.
- It is recommended that the Montana Power Facilities be limited to two driveways in lieu of the existing three to concentrate left-turn movements and to reduce conflicts on the proposed arterial.
- Access to the property to the west between the railroad structures will be moved opposite the Montana Power Facility's north approach.
- Chestnut Street will be restricted to right-turn only. This is due to the proximity of Villard Avenue.

To control access and increase safety the following existing access will be severed:

- Close the north access point to Memorial Park just south of the existing railroad overpass.
- Close east approach of Chestnut Street.
- Close east and west approach of Poplar Street.
- Close the east and west approach of Aspen Street.
- Close the north alley approach between Columbia and National Avenue.
- Close the south alley approach between National and Dodge Avenues.

Items 2, 3, and 4 are recommended because of the acute approach angle to North Main Street. Items 5 and 6 are recommended as alley approaches in these locations are not necessary. The other alleys along this segment have been closed by City action.

Minor Alternatives

The existing roadway capacity could be increased by widening the roadway section between Lyndale Avenue to a point just north of Memorial Drive to accommodate a left-turn bay. This will increase the intersection capacity to handle 14,000 vpd which is substantially less than the projected year 1990 and 2000 traffic. There is not a minor alternate that will satisfy the future traffic demand along the entire corridor.

Based upon the projected ADT it is expected that the existing pavement will require major reconstruction within a few years. This should be delayed until it is warranted. The bridge structures will continue to deteriorate but they both have useful life that cannot be reasonably estimated at this time.

The City of Helena should program the construction of pedestrian/bike paths along Bausch and Memorial Parks for safety considerations.

No-Action Alternative

The no-action alternative consists of the maintenance of existing facilities and services, and the continuation of existing transportation policies.

Yearly maintenance activities of this segment are not a matter of record. The cost of the 1980 overlay project between Lyndale Avenue and Chestnut Street was \$13,000 and was necessary as part of "life cycle maintenance strategy".

Immediate reconstruction is not warranted at this time but the existing section has a limited life based on projected traffic volumes. The bridge structures have some useful life.

The existing facility provides one of three grade separated crossings of the railroad tracks within the urban area. The no-action alternative will result in increased congestion causing traffic to reroute over at-grade crossings increasing the hazard of vehicle-train collisions.

Capacity. The capacity of the north leg of the North Main - Lyndale intersection is 700 vehicles per hour compared to a 1979 peak hour volume of 622 vph. The increased capacity is due to the provision of an additional lane at the intersection as recommended in the minor alternative improvement; however, the two-lane section of the street has a capacity of 500 vph per lane. This capacity is based on traffic signals about a mile apart, parking prohibited and a level of Service C. The year 2000 traffic projection per lane is 900 vph which is beyond the level of Service F. There will be forced flow with continuous backups.

Subalternative

During the review of this document, a study will be performed as to the possibility of the add two-lane structures and consideration might be given to construct a median for the entire length of the project.

Comparisons of operational characteristics, construction costs and user benefits for each alternative are made in Tables 2-1 to 2-5 at the end of this chapter.

Advantages/Disadvantages

The purpose of this project is to develop a four-lane facility to replace a narrow inadequate two-lane section.

"PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED" are as follows:

- The taking of right-of-way.
- Taking of land from a publicly owned recreation area.
- Noise will increase as traffic increases but will stay within acceptable standards.
- The construction process will disrupt the area and necessitate traffic delays and detours.
- Air pollution will occur and noise will increase during construction.

Build Advantages:

- The improved facility will provide a capacity to adequately handle the projected traffic to the year 2000.
- The facility will link the downtown with residential areas, major suburban shopping centers, industrial and commercial sites, the Interstate Highway and the Helena Airport area. The railroad overpasses make this the safest north-south corridor.
- A grade-separated pedestrian crossing will be provided at the south railroad crossing increasing pedestrian safety between Bausch and Memorial Parks.

Build Disadvantages:

- Probable adverse environmental impacts which cannot be avoided have been addressed.
- High capacity arterial adjacent to Bausch and Memorial Parks will create a traffic barrier between the Parks. This is mitigated somewhat by the existing road and projected traffic with or without the improvements.
- Access control to minimizing hazardous traffic conflicts is recommended. The severing of existing access and right-turn only conditions will be a disadvantage to vehicles now using these access points. There will be some localized around-the-block traffic created due to turn prohibitions, example; West Chestnut Street, Upper National Guard Armory Parking Lot and Memorial Drive.
- The project will increase pedestrian vehicular conflicts.
- The raising of the roadway and taking of right-of-way will have an aesthetic impact on the Montana Power Company Building and grounds. (This will be eliminated if the add two-lane structures are built.)

The following is a discussion of the Minor or No-Action Alternatives:

Advantages:

- Right-of-way not required. No direct impact on Park Property.
- Requires no major expenditure of funds.
- Maintains existing access and does not impact the Montana Power Facility caused by the higher grade.

Disadvantages:

- The no-action decision will not forestall increases in traffic as predicted. Future traffic will experience unstable flow, continuous backup and time delay. Employment, income, and business activity that are linked by this corridor may be affected if future congestion forces traffic elsewhere.
- The existing two-lane roadway was initially constructed in 1934. An overlay program in 1980 has increased the life cycle, but the existing base cannot support the projected traffic volume for a prolonged period of time; reconstruction is inevitable. Both railroad crossings are in fair to poor condition. As the traffic increases, higher maintenance costs can be expected and improvement will be needed for the safety of the driver. Reconstruction of a two-lane facility will not satisfy the traffic demands.

PROJECT SUMMARY TABLES

Tables 2-1 through 2-5 summarize user benefits, construction costs, operational characteristics and impacts on energy, historical sites and air quality, for each of the three Projects.

Tables 2-1 and 2-2 show construction costs and user benefits. The construction costs in Table 2-2 do not correspond with those in Table 2-1 due to adjustment for items such as right-of-way, utilities, structures and retaining walls that have a value after the 24 year life that has been assumed for each Project.

The user benefits reflect savings in travel time, and reduction of costs due to speed changes. The present value of these benefits over the 25 year Project life is shown.

A benefit/cost ratio in Table 2-1 of 1.00 or greater indicates that the present value of the Project is equal to or less than the present value of user savings. Minor improvements tend to show high benefit/cost ratios due to the low cost, however, it should be noted that the minor alternatives generally do not meet the future traffic needs.

A money value has not been placed on the improved access provided by each Project. Impacts that are most readily compared are those to which a monetary value can be related. Social, environmental and impacts on community and regional planning goals and objectives are not so easily compared. These impacts should be viewed in light of public interest. In doing this the benefit/cost ratio for the entire corridor improvement project should be combined. The improvements have been separated into three projects for easier discussion, but the effect of all three projects should be considered as a whole.

Table 2-1
USER BENEFIT/COST COMPARISON SUMMARY

<u>Project</u>	<u>1980 User Benefits</u>	<u>1980 Adjusted Cost¹</u>	<u>Benefit/Cost</u>
M5815(1)			
Cruse Avenue - 6th to Lawrence			
Build	\$ 749,800	\$ 814,500	0.92
Cruse Avenue - Lawrence to Neill			
Alternate 1	1,774,700	1,502,300	1.18
Alternate 2	1,123,900	1,740,300	0.65
Alternate 3	1,743,700	1,168,000	1.49
Alternate 4	1,771,500	1,278,800	1.39
Cruse Avenue - 6th to Neill			
Minor Upgrade	166,890	81,000 ²	2.06
One-way Couplet-Jackson and Main	166,890	81,000 ²	2.06
M5807(1)			
North Main - Neill to Lyndale			
Build	1,460,860	381,800	3.83
Minor Upgrade	-	65,300 ³	-
M5807(2)			
North Main - Lyndale to Cedar			
Build	8,041,250	2,818,800	2.85
Add Two-lane Bridges	8,041,250	1,670,500	4.81
Minor Alternative	63,411	10,000	6.34

¹Residual values of right-of-way and utilities remaining after 25 years are credited.

²Requires removal of parking on Jackson.

³Primarily addition of curbs and sidewalk.

Table 2-2
ROADWAY COST SUMMARY - 1980 DOLLARS

PROJECT ALTERNATE	CONSTRUCTION	UTILITIES	RIGHT-OF-WAY RELOCATION	ENGINEERING & CONTINGENCIES	ESTIMATED TOTAL
Cruse Ave. M5815(1) 1 2 3 4 Minor No-Action	\$ 812,200 913,500 788,800 859,000	\$ 55,000 55,000 45,000 45,000	\$1,622,000 1,792,000 1,334,900 1,334,300	\$162,800 183,000 158,300 172,200	\$2,652,000 2,943,000 ^{2*} 2,327,000 2,410,500 81,000 0
L.C.G. M5807(1) Build Minor No-Action	300,400 ^{3*}	25,000		60,100	385,500 65,300 0
L.C.G. M5807(2) Build Two-lane Bridges Minor No-Action	2,334,100 ^{4*} 1,661,600	116,000 116,000	162,000 121,300	467,000 332,300	3,079,100 ^{5*} 2,231,200 10,000 0

1* Estimated total cost Cruse Avenue - 6th Avenue to Lawrence Street = \$963,000.

2* Deleted improved connection to Lawrence Street at Warren Street \$2,323,000 total.

3* Cost based on 50% curbs and sidewalks will remain in place.

4* Includes two railroad overpasses = \$1,322,800 (\$55 per square foot).

5* Add \$340,000 if 14 foot median constructed entire length of project.

Table 2-3
IMPACT/ALTERNATIVE COMPARISON SUMMARY
PROJECT M5815(1) - CRUSE AVENUE EXTENSION

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Minor Alternative	No-Action Alternative
Traffic Capacity	9000 to 9500 vpd	9000 to 9500 vpd	9000 to 9500 vpd	9000 to 9500 vpd	4500 to 5300 vpd	3000 to 5300 vpd
Maximum Vertical Grade	8%	8%	7%	9% Cruse 10% 11th	10%	10%
	Minimized by vertical curve correction.					
Neill Avenue Intersection	5 leg	5 leg	4 leg Plus Additional Intersection	5 leg Plus Additional Intersection	4 leg	No change to existing intersection.
Minimum Level of Service Year 2000	C	C	C	C		
Stage Construction	Sixth Avenue to Lawrence Street.					
	Lawrence St. to 11th Ave.	Lawrence St. to 11th Ave.				Not Applicable
Noise	3.5 dBA Increase					
	+0.9 dBA					
Energy Resource	Consumption of Barrels of oil/day = 4.3					
	4.0					
Historical and Cultural Sites	Taking of buildings and construction within Helena Historical District.					
	No Direct Impact					
Air Quality	Neither Federal nor State Air Quality Standards would be violated as a result of increased traffic volumes.					

Table 2-4
IMPACT/ALTERNATIVE COMPARISON SUMMARY
PROJECT M5807(1) - MAIN FROM NEILL TO LYNDAL

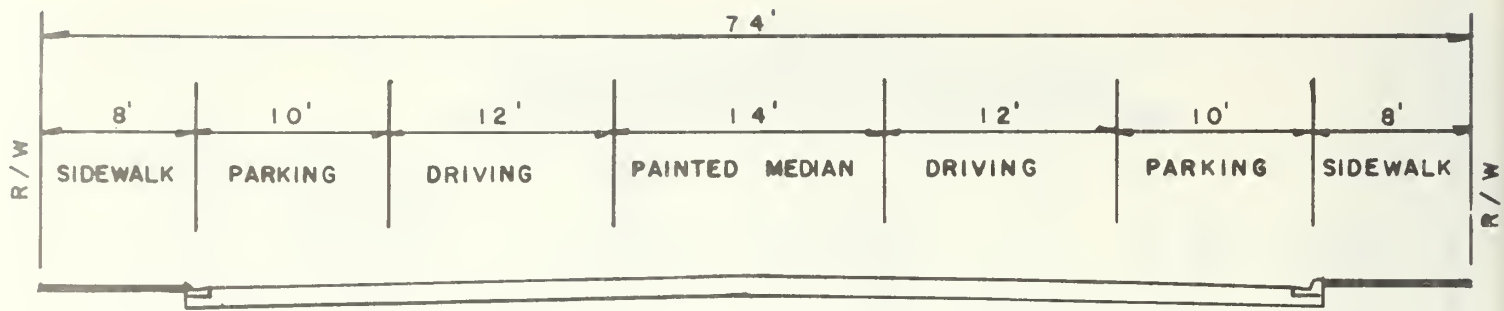
	<u>Build</u>	<u>Minor</u>	<u>No-Action</u>
Traffic Capacity	11,000 to 12,000 vpd	11,000 to 12,000 vpd	7,400 to* 8,700 vpd
Minimum Level of Service Year 2000	C	C	F
Noise	+0.9 dBA	+0.9 dBA	+0.9 dBA
Energy Resource Bbl oil/day	8.7	8.7	9.0
Historical and Cultural Site	No direct impact		
Air Quality	Neither Federal nor State Air Quality Standards would be violated as a result of increased traffic volumes.		

*Note: The critical capacity is not at the signalized intersections where the street is widened to provide additional lanes, but along the two-way section of the street.

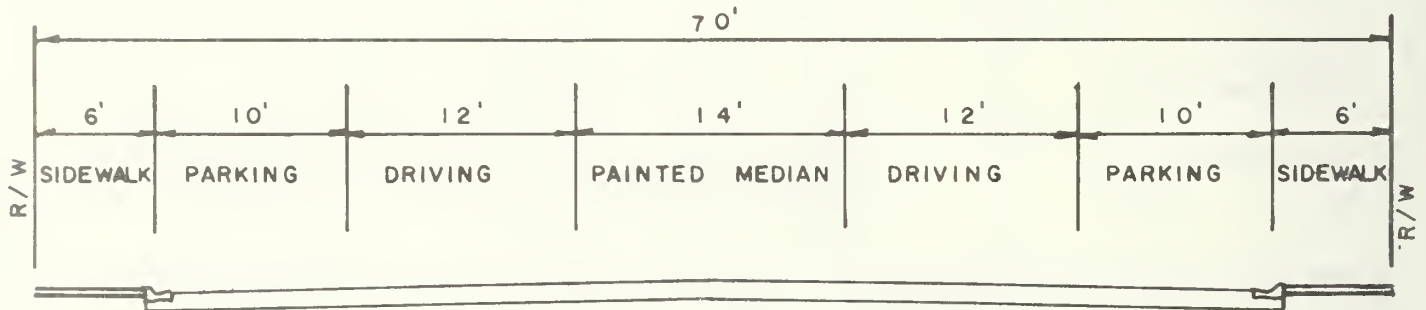
Table 2-5
IMPACT/ALTERNATIVE COMPARISON SUMMARY
PROJECT M5807(2) - MAIN FROM LYNDAL TO CEDAR

	<u>Build</u>	<u>Minor</u>	<u>No-Action</u>
Traffic Capacity	19,600 to 20,000 vpd	14,000 vpd (intersection)	10,000 (average roadway capacity)
Minimum Level of Service Year 2000	C	F	F
Noise	+2.2 dBA		+2.2 dBA
Energy Resource Bbl oil/day	26.0		31.2
Recreation Sites	Bausch & Memorial Parks	No Direct Impact	
Air Quality	Neither Federal nor State Air Quality Standards would be violated as a result of increased traffic volumes.		

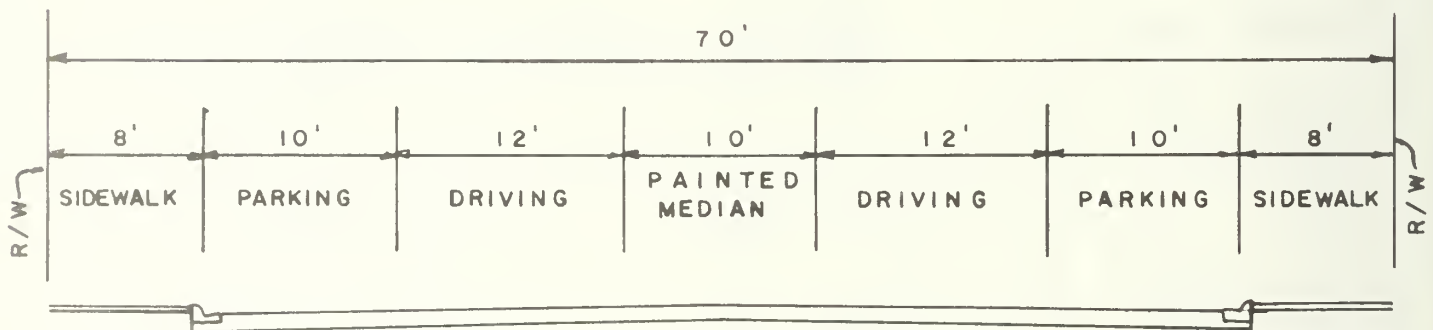
Note: Detailed analysis of individual impacts are addressed in Chapter 4.



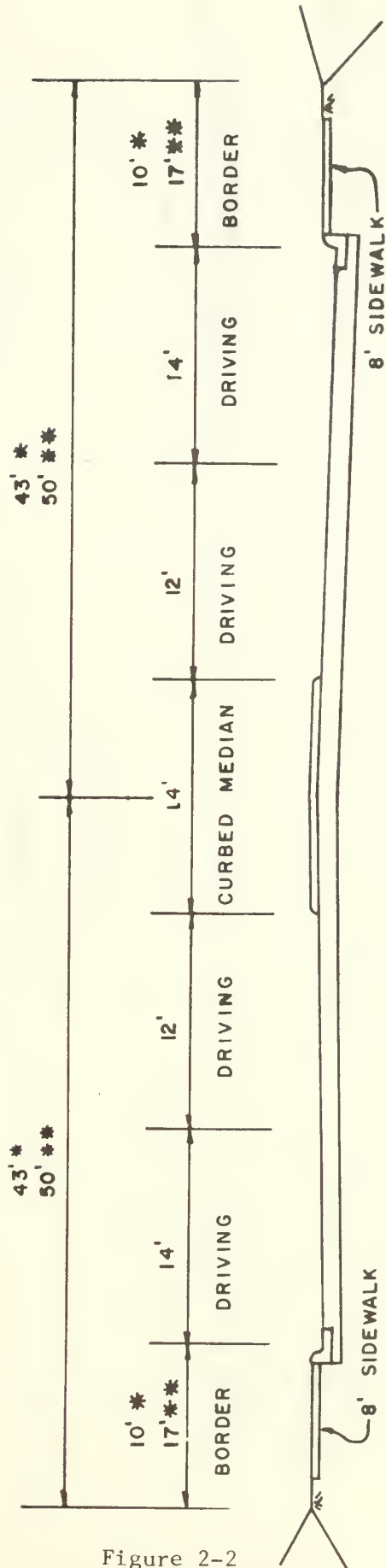
CRUSE DRIVE M 5815 (1)
LAWRENCE ST. TO NEILL AVENUE



CRUSE DRIVE M 5815 (1)
6th AVE. TO LAWRENCE ST.



M 5807 (1)
LAST CHANCE GULCH
FROM NEILL AVE. TO LYNDAL AVE.

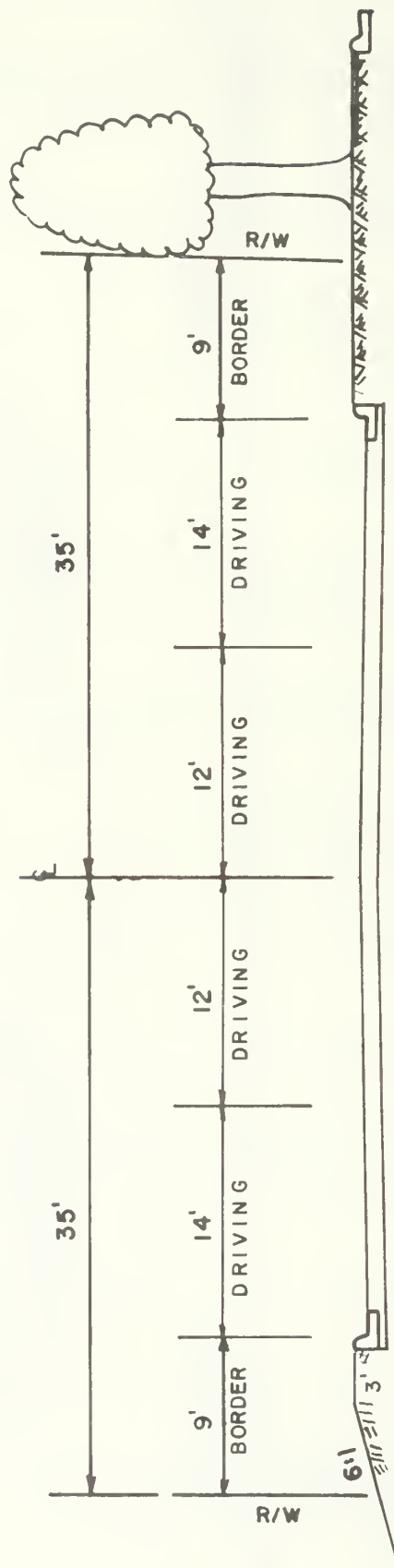


M 5807 (2)

* LAST CHANCE GULCH
LYNDALE AVE. TO MEMORIAL DRIVE
(EXIST. R/W = 70')

** NORTH MAIN ST.
VILLARD TO MONTANA AVE.
(EXIST. R/W = 100')

Figure 2-2
35



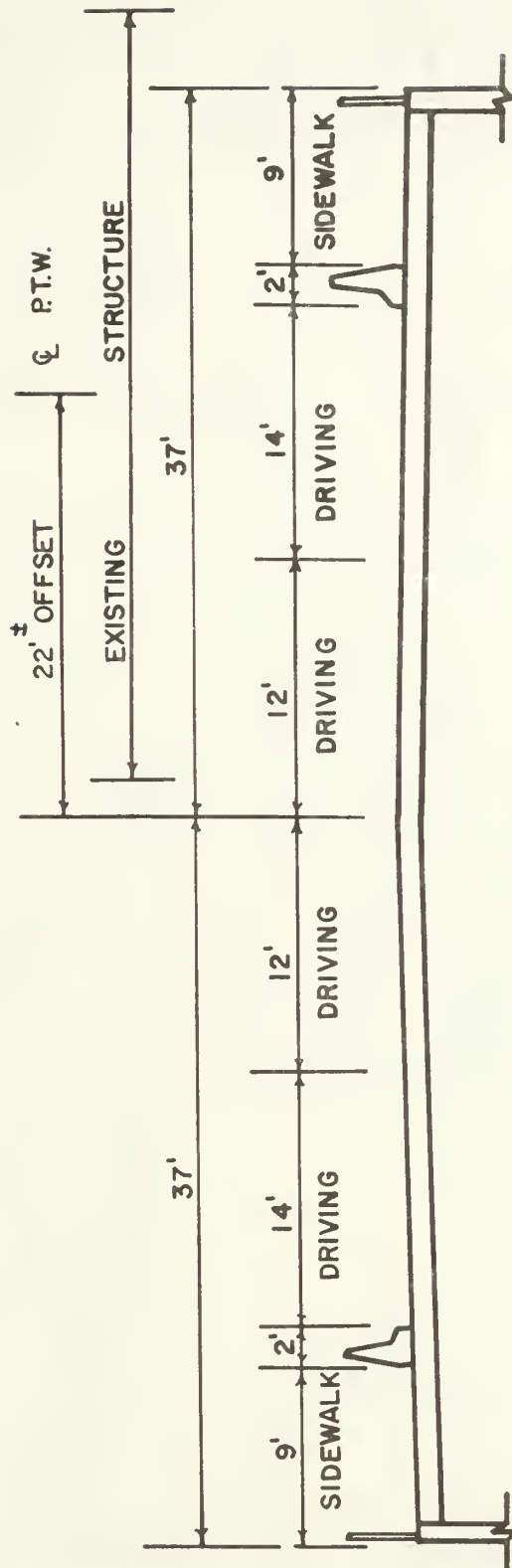
M5807 (2)

LAST CHANCE GULCH

ADJACENT TO MEMORIAL PARK

NOTE: SIDEWALK/BIKEPATH
WILL BE CONSTRUCTED
IN PARK AWAY FROM
ROADWAY

Figure 2-3
36



M 5807 (2)
LAST CHANCE GULCH
 TYPICAL NEW 4-LANE RAILROAD
 STRUCTURE SECTION

Figure 2-4
 37

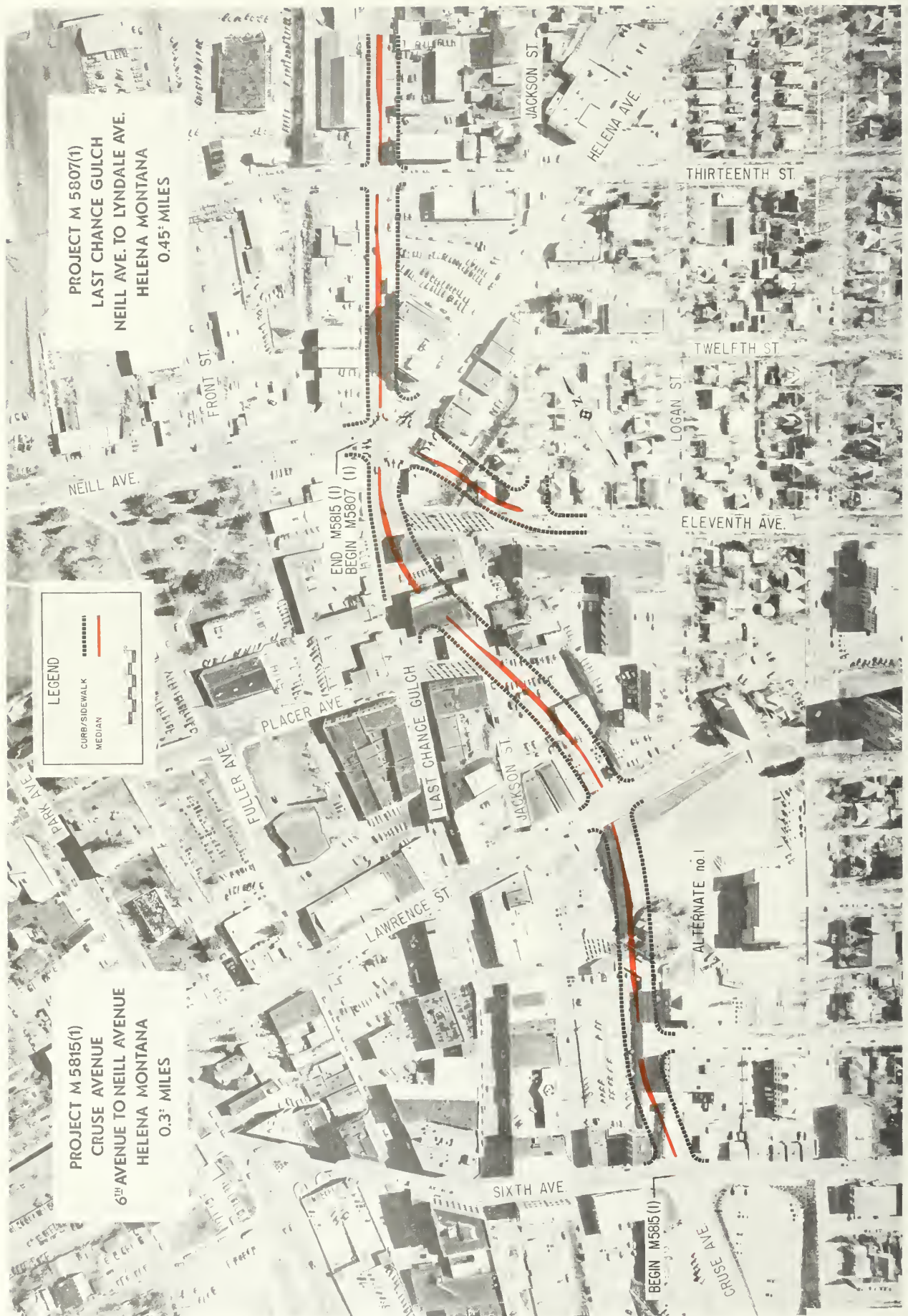


Figure 2-5
38

Alternate No. 1

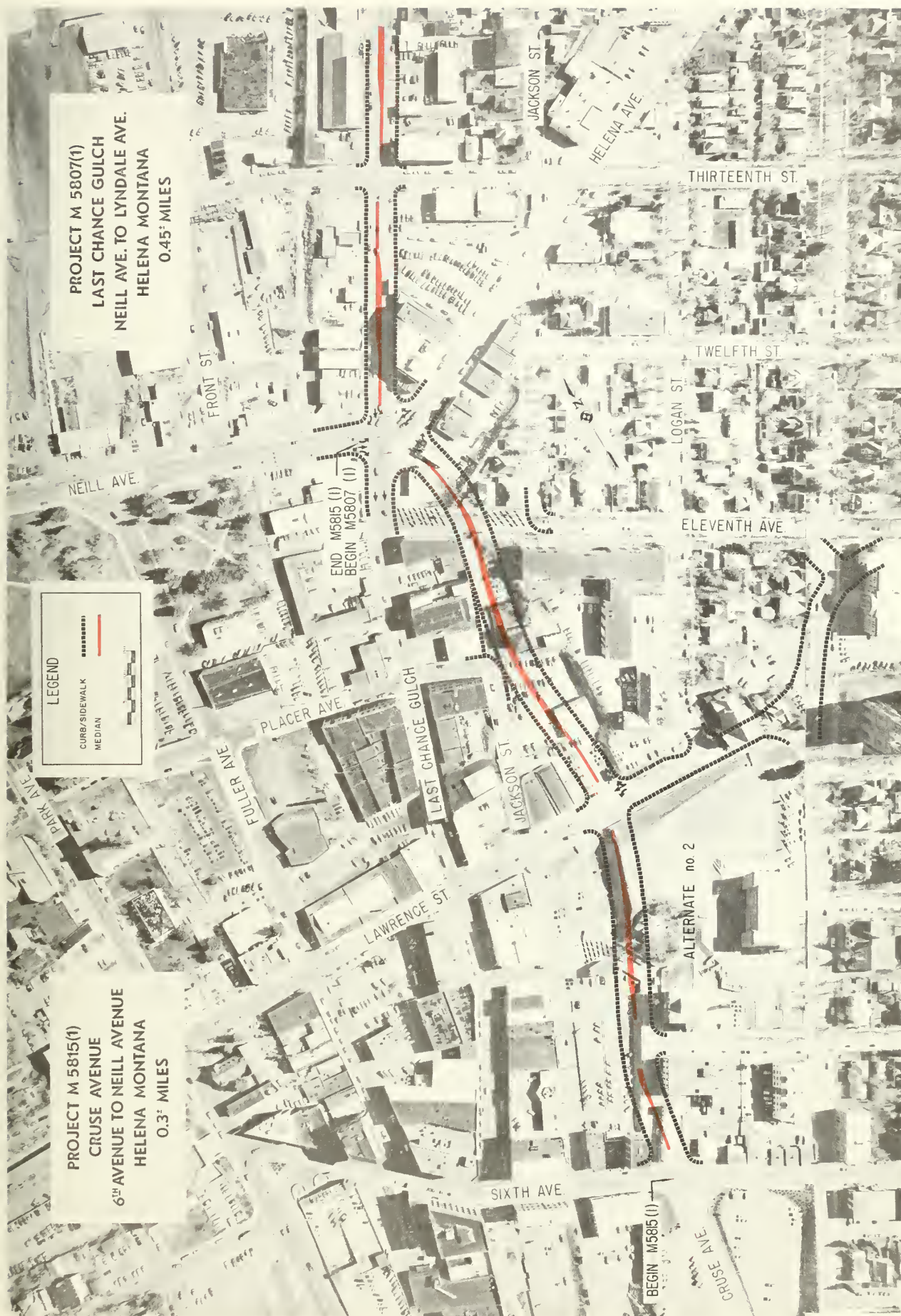


Figure 2-6

Alternate No. 2

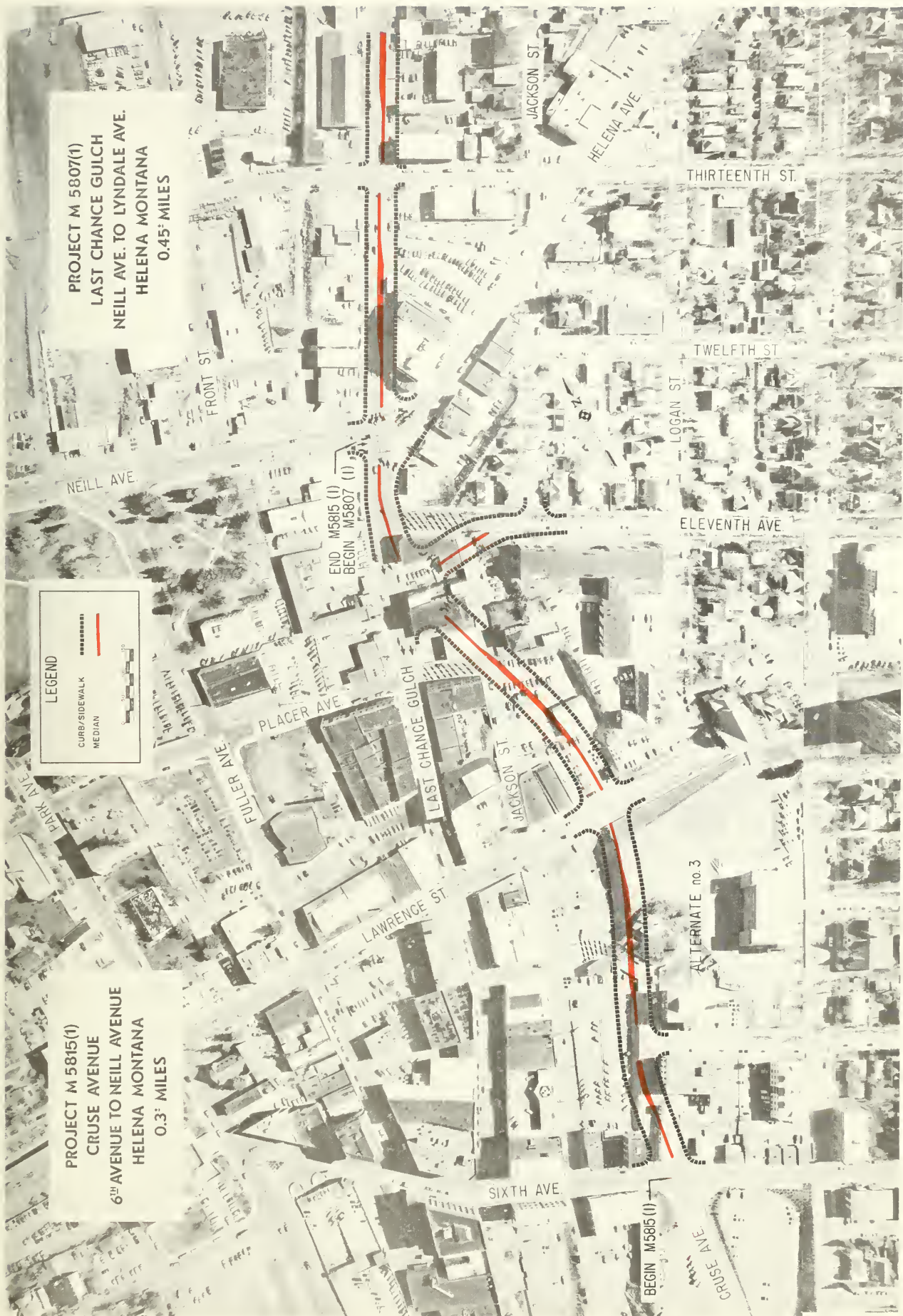


Figure 2-7

Alternate No. 3

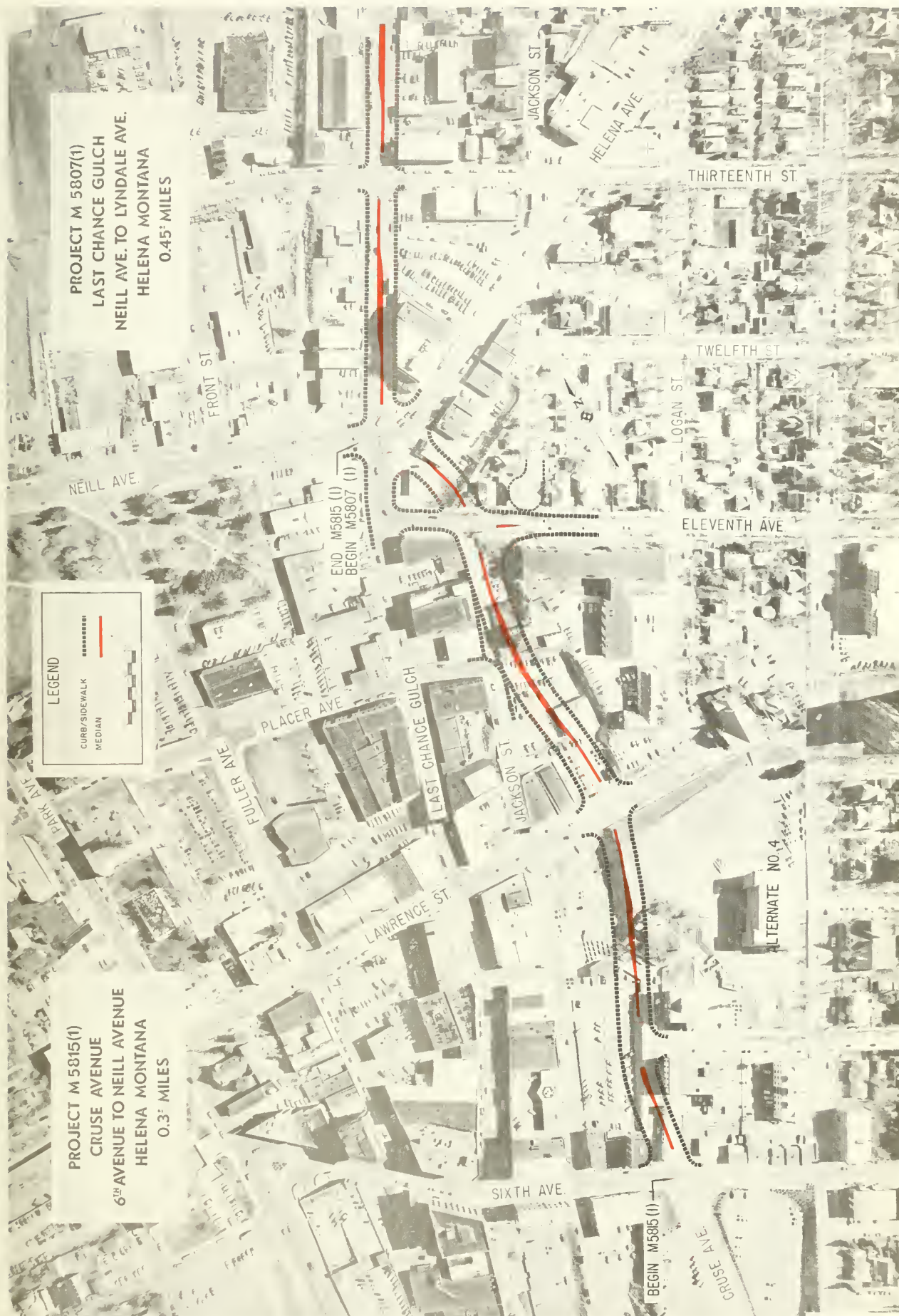
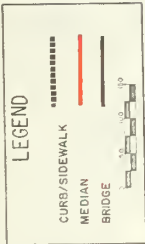


Figure 2-8

Alternate No. 4

PROJECT M 5807(2)
NORTH MAIN STREET
LYNDALE AVE. TO CEDAR ST.
HELENA MONTANA
0.82 MILES



PROJECT M 5807(1)
LAST CHANCE GULCH
NEILL AVE. TO LYNDALE AVE.
HELENA MONTANA
0.45 MILES

B.N. RR

LANDFILL

YMCA

BAUSCH PARK

MEMORIAL PARK

MEMORIAL DR.
LYNDALE AVE.

SEVENTEENTH ST.

SIXTEENTH ST.

JACKSON ST.

LOGAN ST.

FIFTEENTH ST.

FOURTEENTH ST.

END M5807 (1)
BEGIN M5807 (2)

LAST CHANCE GULCH

Figure 2-9

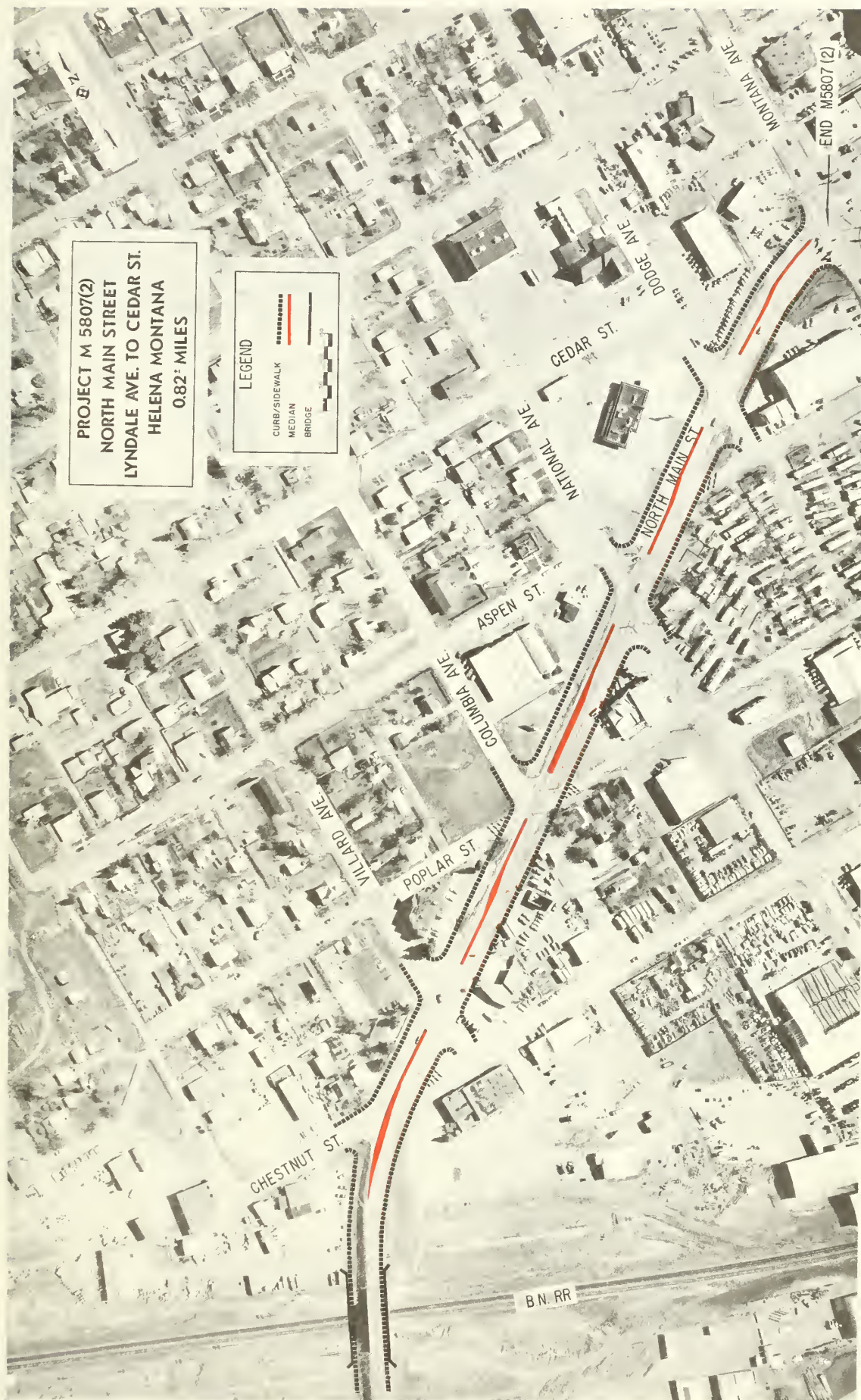
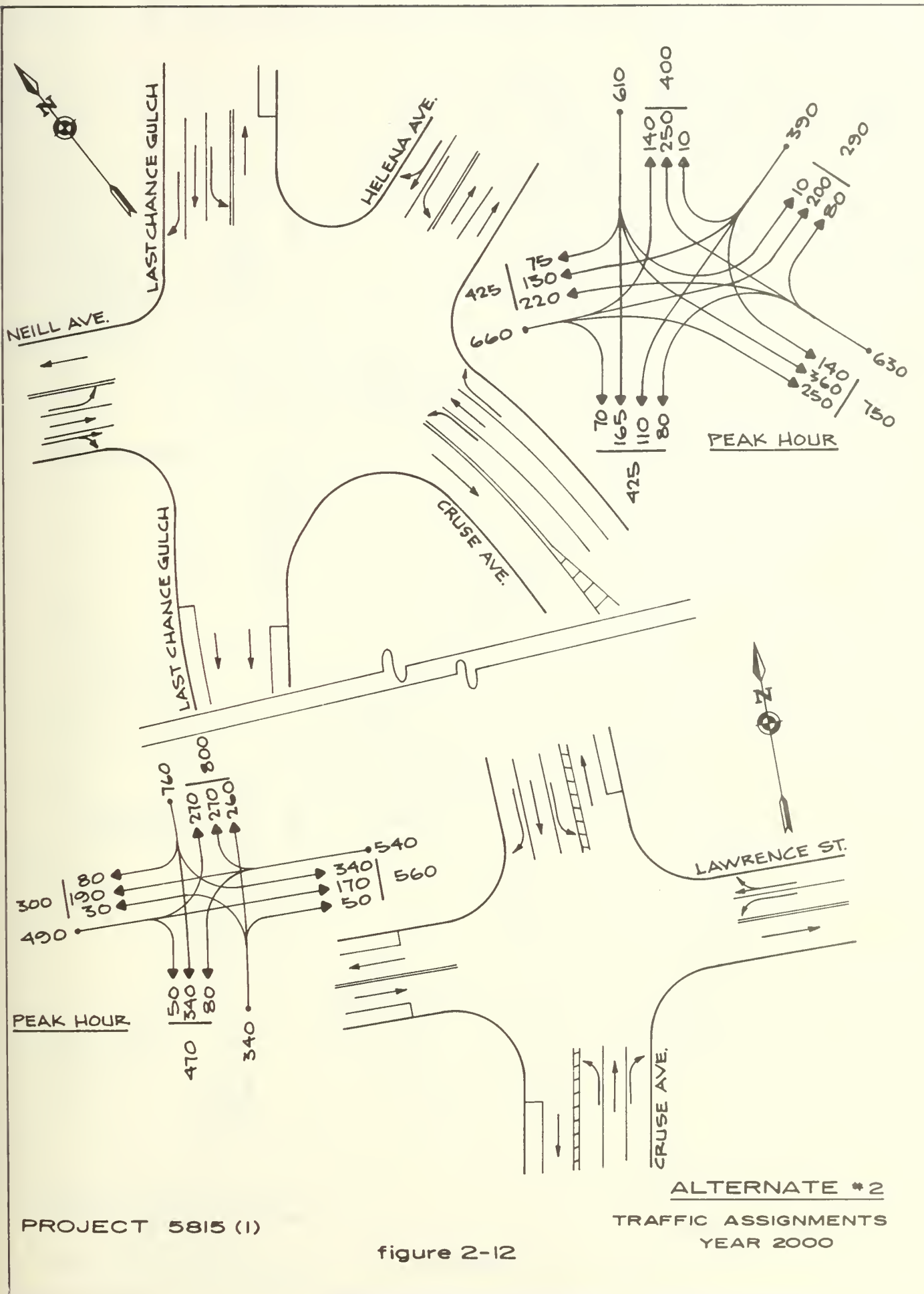


Figure 2-10



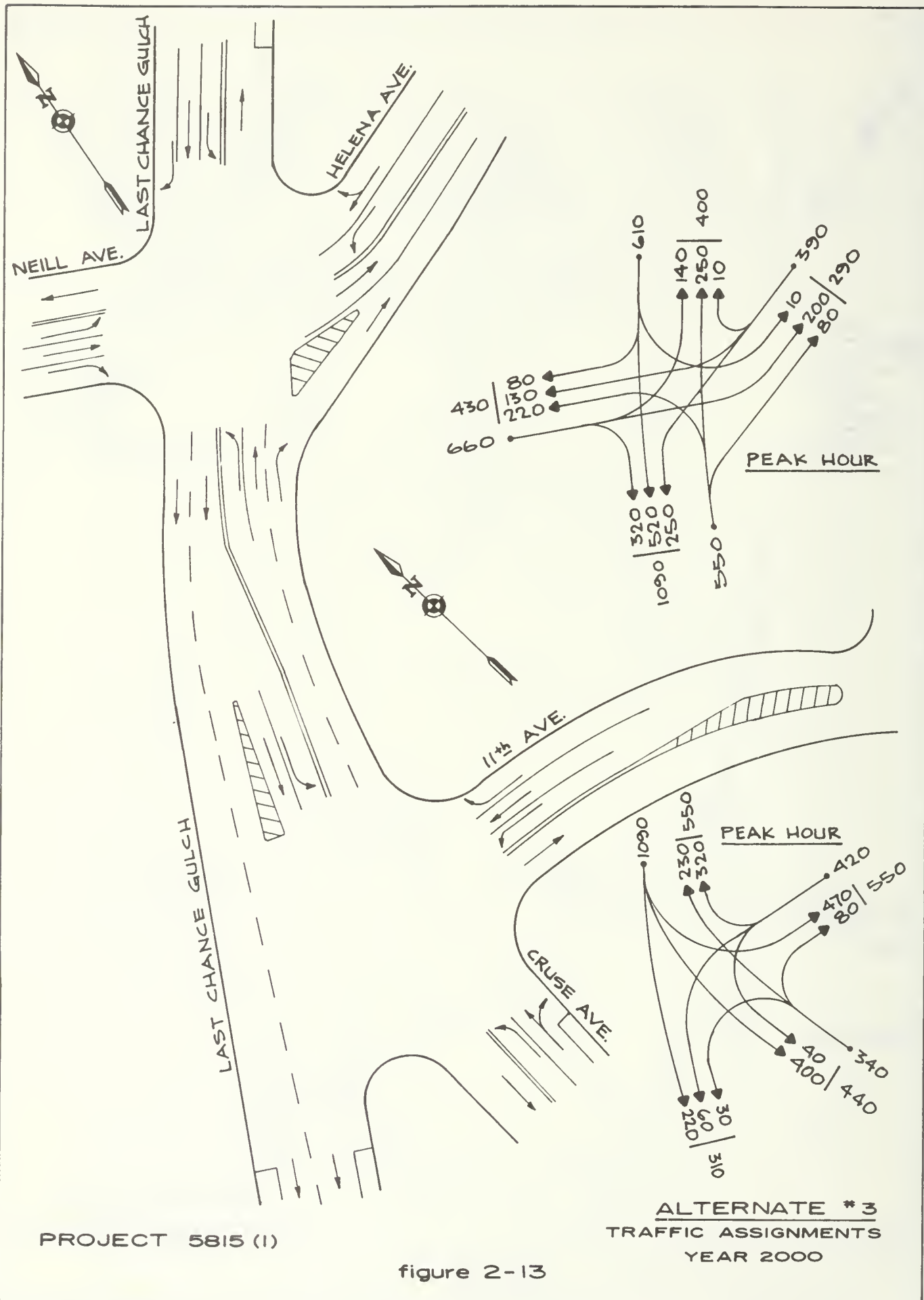
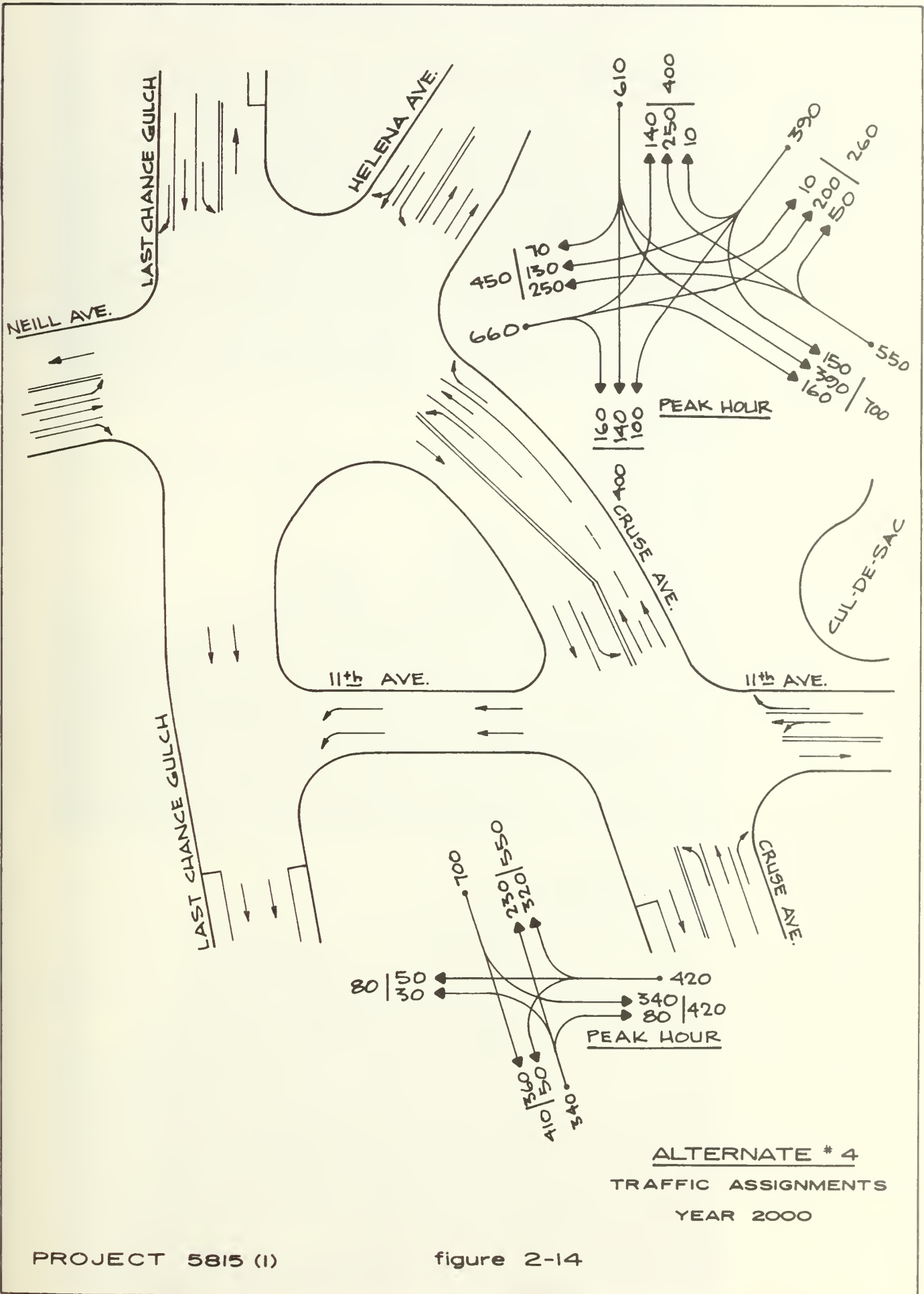


figure 2-13



CHAPTER 3 - EXISTING AND AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the existing socio-economic and environmental setting for the area affected by all of the alternative proposals. For each alternative the probable environmental effects will be discussed along with means to mitigate the adverse environmental impacts.

All technical reports and supportive studies are summarized and consolidated in proportion to the significance of the impacts. The full reports and studies are referenced and are available for review at the Federal Highway Administration, Federal Building, Helena, Montana; Montana Department of Highways, Consultant Design Division, Helena, Montana; Koehnlein Lightowler Johnson, Inc., 4509 North Star Boulevard, Great Falls, Montana; or at another specific location made by reference depending on the subject of the report.

Photographs taken along the corridor are exhibited on Figure 3-1 through 3-17. On some of the photos the centerline roadway is superimposed to give a better understanding of the project.

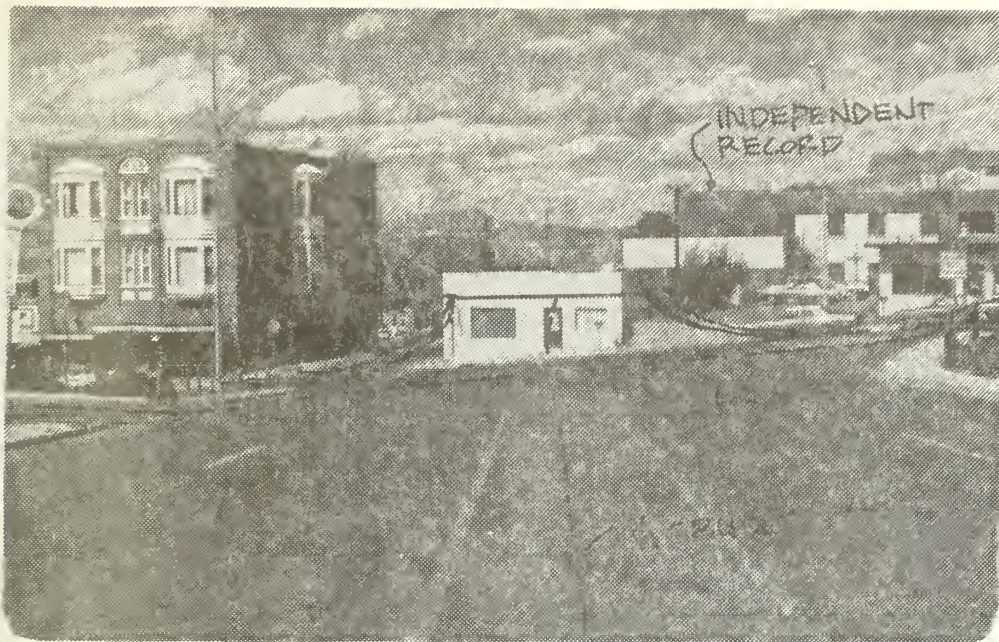


Figure 3-1
Beginning of Project
M5815(1), Cruse Avenue
Extension looking north
just south of Sixth
Avenue.

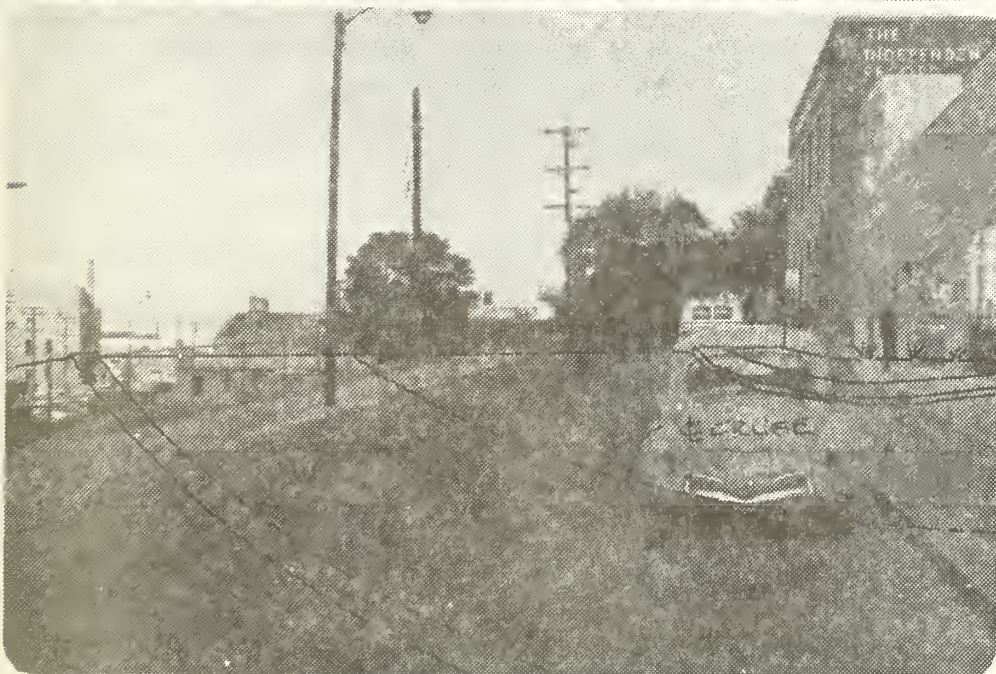


Figure 3-2
Cruse Avenue; view
looking north on Allen
Street between 6th and
7th Avenue.

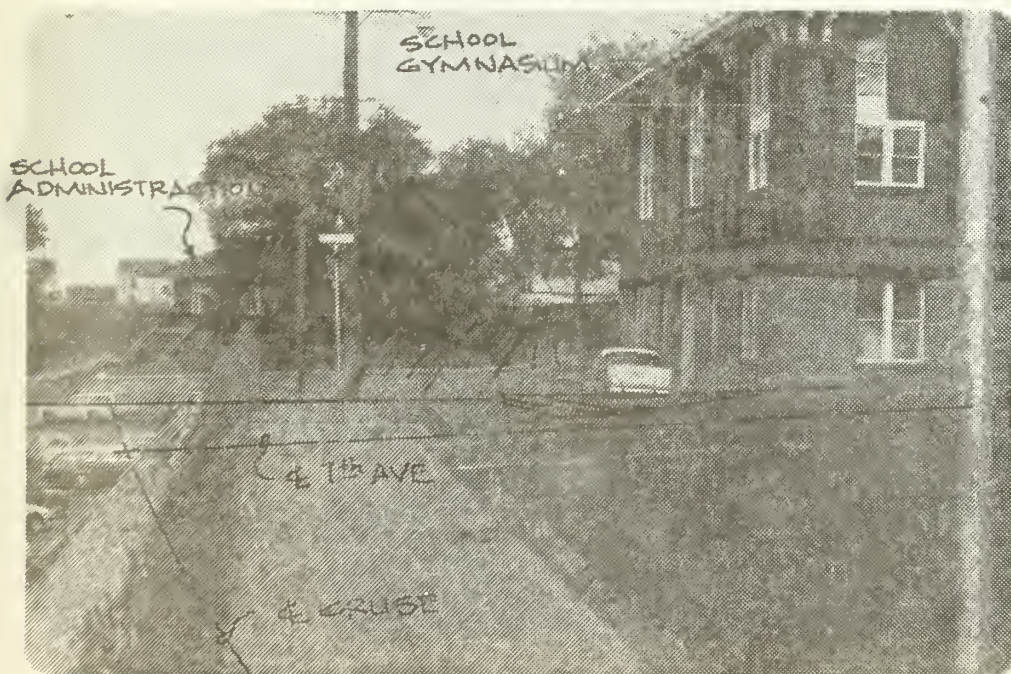


Figure 3-3
Cruse Avenue; view
looking north on Allen
Street. Seventh Avenue
to the right.

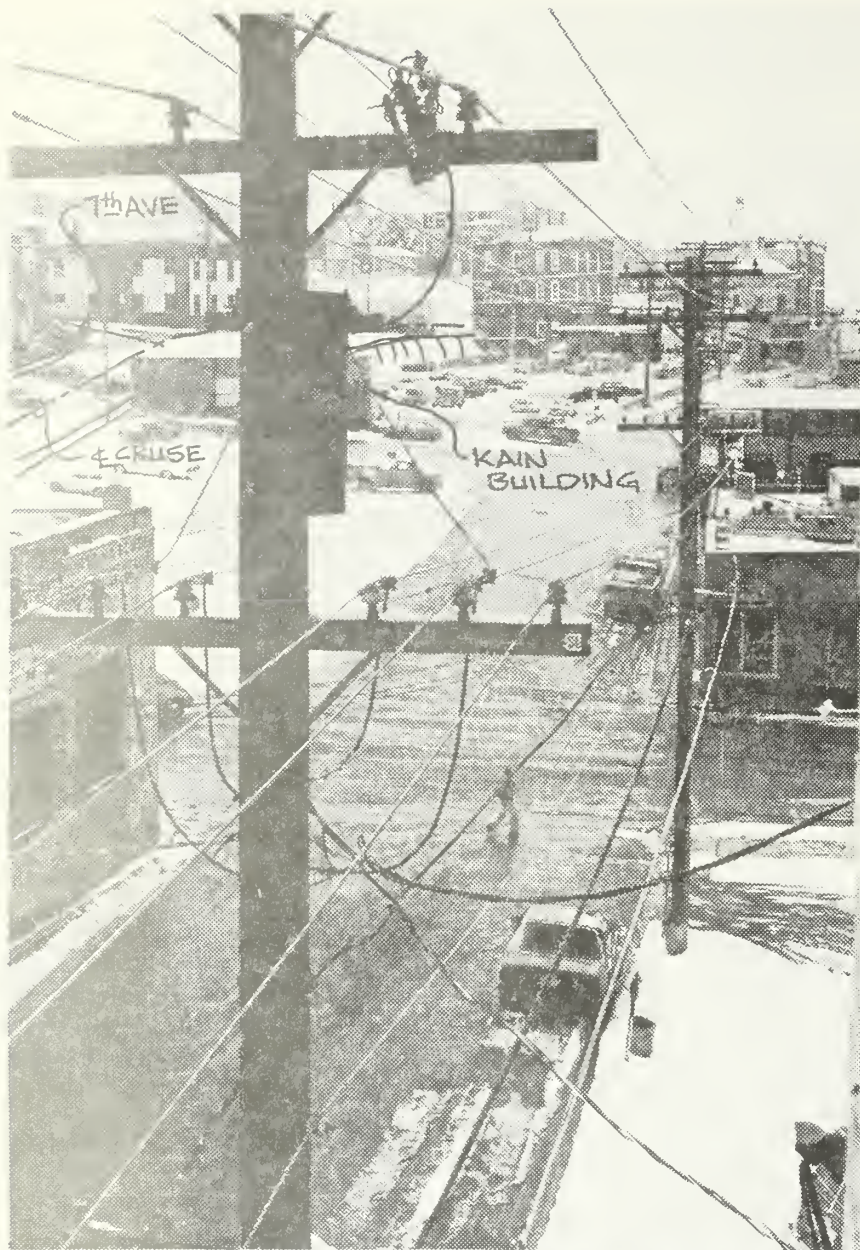


Figure 3-4
Project M5815(1)
View looking south
along North Jackson
Street, across Lawrence
Street. New Cruse
Avenue at upper left.



Figure 3-5
View looking south at
Lawrence Street near
centerline (C) of New
Cruse.

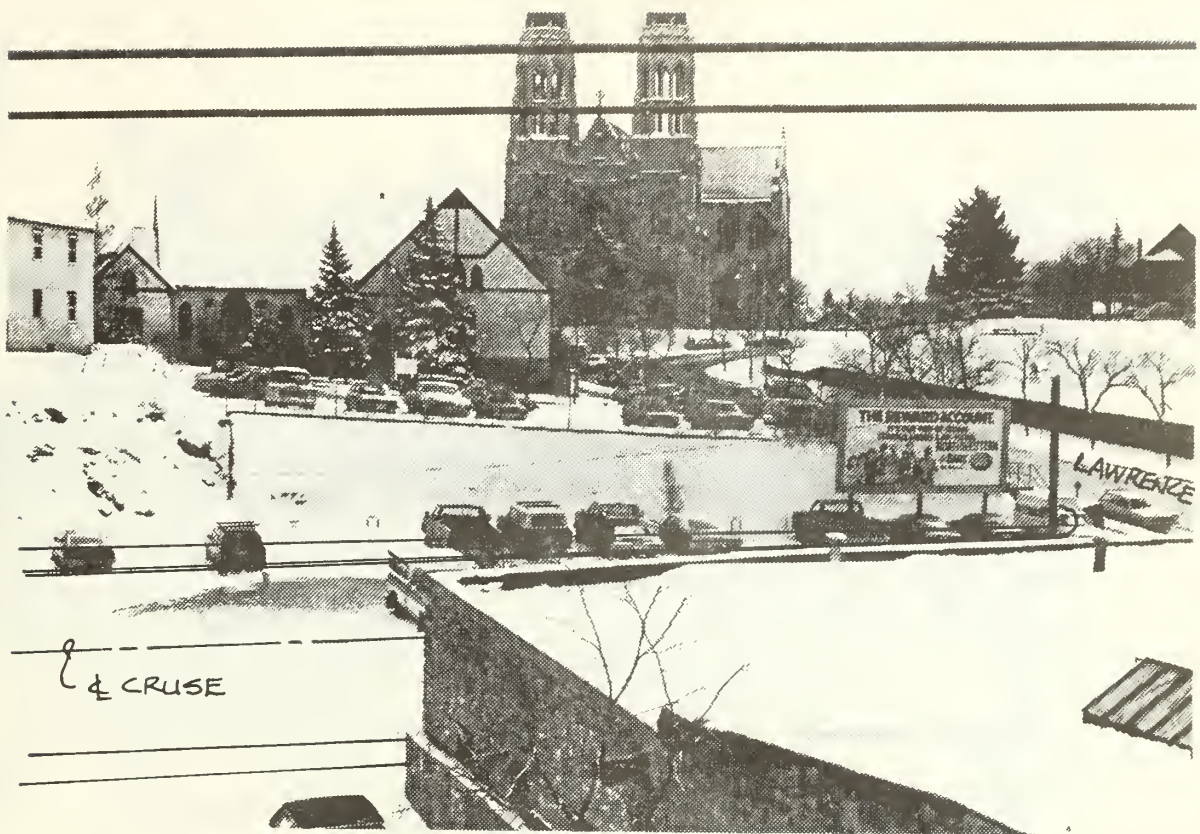


Figure 3-6

View looking east toward Logan and North Warren Street. Lawrence Street to the right. New Cruse Avenue alignment just east of Montana Powder building in the foreground.



Figure 3-7

View looking north on North Jackson Street at Placer Avenue. Residence on the right will be taken in Alternates 2 and 4. Building to the left will be taken in Alternates 1 and 3.

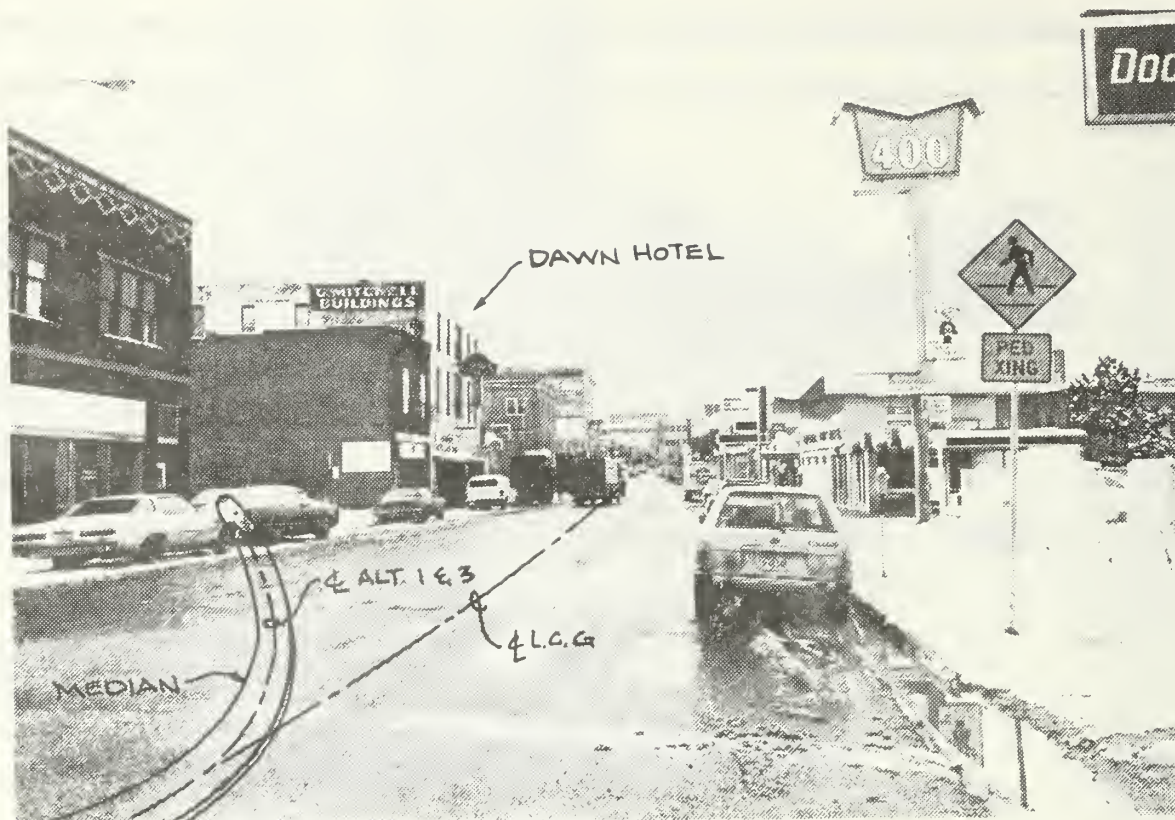


Figure 3-8

View looking south on North Last Chance Gulch at 11th Avenue. 500 Block on the left between Placer and 11th Avenue to be taken in Alternates 1 and 3.



Figure 3-9

611 Helena Avenue near centerline of new 11th Avenue, Alternate 1 or Cruse Avenue, Alternates 2 and 4.



Figure 3-10

Former St. Helena School at 529 North Warren Street. Building now serves as the program offices for several government departments. Considered for taking in Alternate 2 Cruse Avenue.



Figure 3-11

View looking south on North Jackson Street between 11th and 12th Avenue. Cul-de-sac considered in background near 11th Avenue in Alternate 4 Cruse Avenue.



Figure 3-12

View looking south on North Last Chance Gulch. Project M5807(1).



Figure 3-13

View looking south on North Last Chance Gulch Project M5807(1).



Figure 3-14

View looking south along North Last Chance Gulch, Project M8507(2) near south railroad overpass. Bausch Park on the right, Memorial Park on the left. New four-lane roadway deflect west (right) and will be about 4 feet higher at this location if new four-lane overpass is built in lieu of add new two-lane.



Figure 3-15

View looking north on the west side between railroad overpass Project M5807(2).

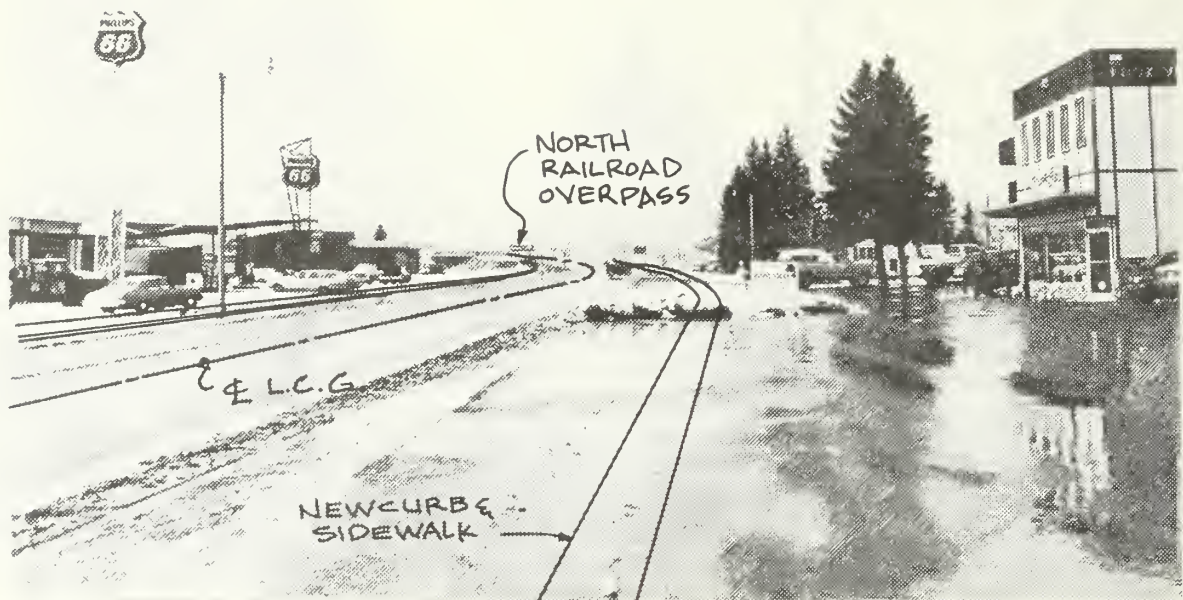


Figure 3-16

View looking southwest on North Last Chance Gulch (North Main Street) Project M5807(2). Picture taken near intersection of Columbia Street.



Figure 3-17

View looking southwest on North Last Chance Gulch (North Main Street) Project M5807(2). Picture taken near intersection of Montana Street (End of Project).

BACKGROUND

The City of Helena is the Capital of the State, the County Seat of Lewis and Clark County and the location of a number of State and Federal Agencies. This multitude of governmental agencies and offices provides a solid economic base.

Among the many capital improvements made in Helena in the last decade was the revitalization of the City's downtown district. This action broke the cycle of economic, cultural, physical, and environmental decay. Capitalizing on the historical value of Last Chance Gulch, many of downtown's original structures were renovated and the Gulch south of 6th Avenue was made into a pedestrian mall. Helena's downtown has created an atmosphere that is attractive to new development. There are now more than 80 stores, about two dozen restaurants, and four theaters in the Central Business District. A new federal office building has been constructed in the area which consolidates most federal agencies into one complex. The City and County Offices are now located downtown in the old Federal Building. A number of State offices are also located in the Central Business District. In 1977 the downtown area south of Neill Avenue contained 542 dwelling units housing a population of approximately 1530 persons.

PHYSIOGRAPHY AND GEOLOGY

The general physiography and geology of the project area can be divided into two areas -- northeast and southwest of Neill Avenue, as described.

Northeast of Neill Avenue the area is underlain by extensive deposits of alluvial and colluvial sands and gravels derived from the hills to the south. A small knoll of diorite porphyry, located in the vicinity of Carroll College, is the only exception to these deposits.

North of the Burlington Northern tracks the land is relatively flat. At the railroad overpass there is a gulch or old stream channel just west of the street. The gulch is very wide at this point. North Last Chance Gulch approximately parallels the eastern extent of the gulch. The maximum existing vertical roadgrade for this segment (except for the railroad overpasses) is 3 percent. The area along the Parks has been extensively filled.

The entire area is covered extensively by housing and businesses. Except for the developed Park area, vegetation consists of numerous trees and sparse grasses. The gulch is covered with grasses and occasional trees.

Southwest of Neill Avenue the area is covered entirely by homes and businesses. There are numerous trees but very few grasses.

Helena and the immediate area have been mined extensively over the past 100 years and much of the topography has been affected by the activity. The "Gulch" itself has been extensively placer mined and much of the material overlying bedrock has been moved about and disturbed by mining. The area west of the old armory has not only been used as a dump, but also contains thick accumulations of placer tailings. To the north of the gulch, the southerly portion of the valley has been dredged and tailings from that activity are readily apparent.

Helena lies in a historically active seismic zone. Numerous faults underlie the valley. Earthquakes of Richter Magnitude (RM) 7.0 or greater are possible, as evidenced by the 1935 quake.

CLIMATE

Helena is located on the south side of an intermountain valley, bounded on the north and east by the Big Belt Mountains, and on the west and south by the main chain of the Rocky Mountains. The climate of Helena is modified by Pacific Ocean air masses, drainage of cold air into the valley from surrounding mountains, and the shield effect provided by the mountains. All tend to make temperature changes somewhat smaller than those expected of a true continental climate.

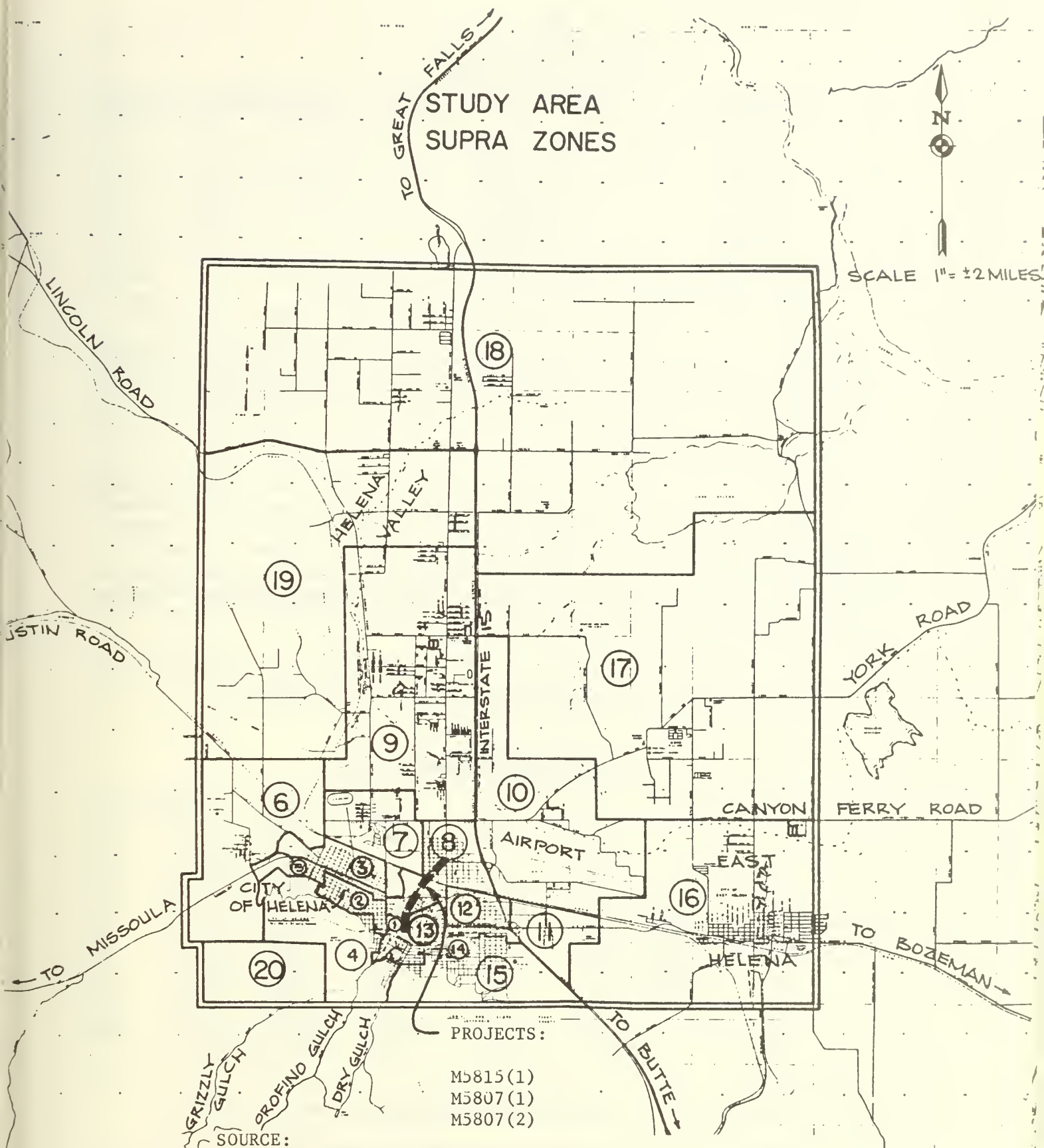
As may be expected in a northern latitude, cold waves may occur from November through February, with temperatures occasionally dropping to zero or lower. The greatest number of days with a temperature of zero degrees F or less can be expected during January. Twenty-four hour changes seldom exceed 40° F. The average date in the Fall when the temperature drops to 32° F is September 23, this temperature is reached again as a minimum on May 12.

Summertime temperatures are moderate, with maximum readings generally under 90° F and very seldom reaching 100° F. The highest ever observed was 105° F on August 24, 1969. Like all mountain locations, there is usually a marked diurnal change in temperature. During the summer this tends to produce an agreeable combination of fairly warm days and cool nights.

The average annual precipitation in Helena is 11 inches. Most of the precipitation falls from April through July in the form of frequent showers or thundershowers. Some steady rains usually occur in June, the wettest month of the year. Fall and winter months are relatively dry. April - September growing season precipitation varies considerably, but the average is about 8 inches.

POPULATION

The Socio-Economic Advisory Committee prepared a population short-term forecast (1985) and long-term forecast (1990-2000) for the Urban Transportation Planning area (study area) and Lewis and Clark County. Projected population growth rates are derived by estimating "people employed" and multiplying by a factor developed by previous studies. Federal, State and Local Governments account for 33 percent of total employees in the Helena area and are the main economic base. This base is sound and stable and will probably increase in proportion to State and local growth. The population projections are shown in Table 3-1.



SOURCE:

Present and Projected Economic/Demographic Impacts upon Helena Area 1970-2000. Prepared by T.A.P., Inc., of Bozeman, Montana, April 1, 1978.

Figure 3-18

Table 3-1
PROJECTED POPULATION

<u>Year</u>	<u>Study Area</u>	<u>Lewis & Clark County</u>	<u>Yearly Percent Change</u>
1978	38,700	42,300	
1980	40,900	44,700	2.8
	(38,750)	(43,053)	
1985	46,600	51,000	2.8
1990	48,900	53,500	1.0
2000	56,100	61,400	1.5

Source: Recommended Socio-Economic Advisory Projections.
Adopted by Socio-Economics Advisory Committee, January 16, 1979.

The preliminary 1980 census for Lewis and Clark County is noted by parenthesis. The Study Area unofficial population was taken as 90 percent (38,750) of the County figure. The County's actual growth for the 1970-1980 period was 29.4%. In order to reach the 1990 projection, the growth rate is estimated to be 24% for the next ten-year period.

The areas that are contiguous to the projects and would receive direct benefit from the improvements to the transportation system providing improved access to dwellings, jobs, business and shopping are Zones: 1 Downtown, 2 Upper Westside, 3 Lower Westside, 4 Upper Westside, 7 Custer Avenue, 8 Cedar - Montana, 9 West Valley, and 13 Eastside (see Figure 3-18 Study Area Zones). These eight zones account for 57 percent of total estimated employment and 69 percent of all dwelling units within the study areas based on figures from T.A.P., April 1, 1978, study.

The following increases in population, dwelling units and employment are projected for the zones within the area affected by the projects:

Table 3-2
SOCIO-ECONOMIC PROJECTIONS

<u>Zone</u>	<u>Description</u>	<u>Population</u>		<u>Dwelling Units</u>		<u>Employees¹</u>	
		<u>1978</u>	<u>2000</u>	<u>1978</u>	<u>2000</u>	<u>1978</u>	<u>2000</u>
1	Downtown	1,050	1,450	610	850	4,715	6,555
2	Upper Westside	3,250	3,750	1,250	1,630	157	220
3	Lower Westside	2,900	3,950	1,070	1,650	400	940
4	Upper Westside	1,450	2,300	590	1,000	60	270
7	Custer Avenue	3,550	4,700	1,180	1,810	545	960
8	Cedar - Montana	2,600	3,150	1,130	1,580	3,143	5,095
9	West Valley	3,700	5,400	1,210	1,800	200	1,405
13	Eastside	4,700	5,300	2,220	2,650	925	880
	TOTAL	23,200	30,000	9,260	12,970	10,145	16,325

¹By zone of work.

Source: Socio-Economic and APO Advisory Committee, January 16, 1979.

The percentages of year 2000 study area population and dwelling units in the area of influence of the projects are 53% and 57% respectively.

LAND USE

The overall land use pattern can generally be described as low density with residential sections bordered by strips of commercial development along the major streets. In addition to the Central Business District there are six identifiable shopping areas in the City. The most recent proposals for future shopping centers lie in the area north and east of the Last Chance Gulch/Cedar Street/Montana Avenue intersection and in the southeast area of the City limits. Development to the south is controlled by the physical features of the land as well as the limitations of the water system. Growth has been generally to the north and along the southern foothills for the past decade. The existing land use along the project corridor is shown on Figure 3-19.

The area served by the proposed project has the highest development density within the study area. The project would improve access to the Central Business District and to the higher density residential developments surrounding the C.B.D.

The Helena zoning ordinance and zoning area maps are available for review at the City Building Inspector's Office. See Figure 3-20 for copy of the corridor zoning map.

ECONOMY

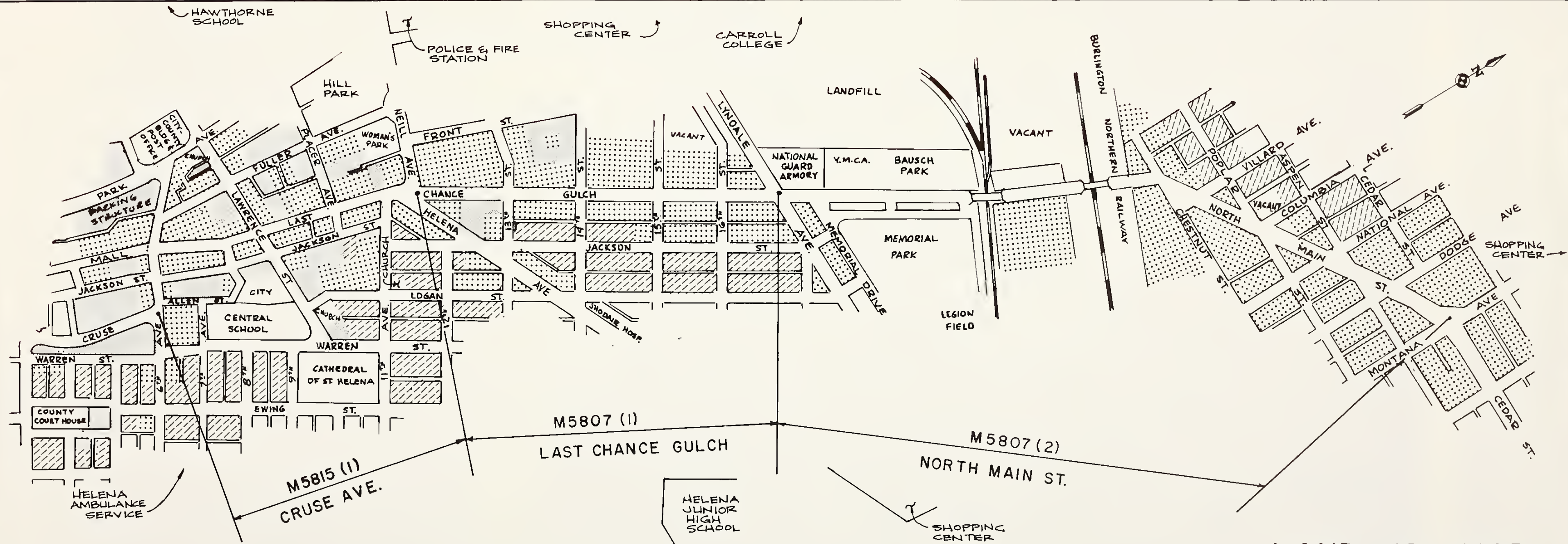
Helena became the Capital of Montana in 1894. Since that time, the main economic base has been government. This base has had a steady stable growth with no major employment fluctuation. A steady growth is projected.

While government dominates the number of employees as well as the income levels, other private employers add to the economic base.

Table 3-3
HELENA AREA MAJOR EMPLOYERS
AND TOTAL EMPLOYEES, 1977

<u>Employer</u>	<u>Employees</u>
1. State of Montana	3,775
2. Local Government	1,783
3. Federal Government	1,103
4. Mountain Bell	789
5. St. Peters Hospital	390
6. American Smelting and Refining	370
7. Blue Shield	220
8. Carroll College	190
9. Kaiser Cement and Gypsum	91
10. Shodair Hospital	90

Source: Present and Projected Economic/Demographic Impacts upon Helena Area 1970-2000; Prepared April 1, 1978.



LEGEND

-  RESIDENTIAL
-  COMMERCIAL
-  PARKING
-  SPECIAL USE

LAND USE MAP

- M5815 (1) CRUSE AVE.
6th TO NEILL
- M5807(1) LAST CHANCE GULCH
NEILL TO LYNDALE
- M5807(2) NORTH MAIN ST.
LYNDALE TO MONTANA-CEDAR

HELENA, MONTANA

fig. 3-19

MAY 1980



Zones:

Chapter:

R-1 Single-Family Residential District-Estates.....	3
R-2 Single Family Residential District.....	4
R-3 Medium Density Residential District.....	5
R-4 Residential District.....	5A
R-0 Residential-Office District.....	6
B-1 Neighborhood Business District.....	7
B-2 Community-Highway Business District.....	8
B-3 Central Business District.....	9
CLM Commercial-Light Manufacturing District.....	10
M-I Manufacturing and Industrial District.....	11
PLI Public Lands and Institutions District.....	12
T Transitional District.....	13

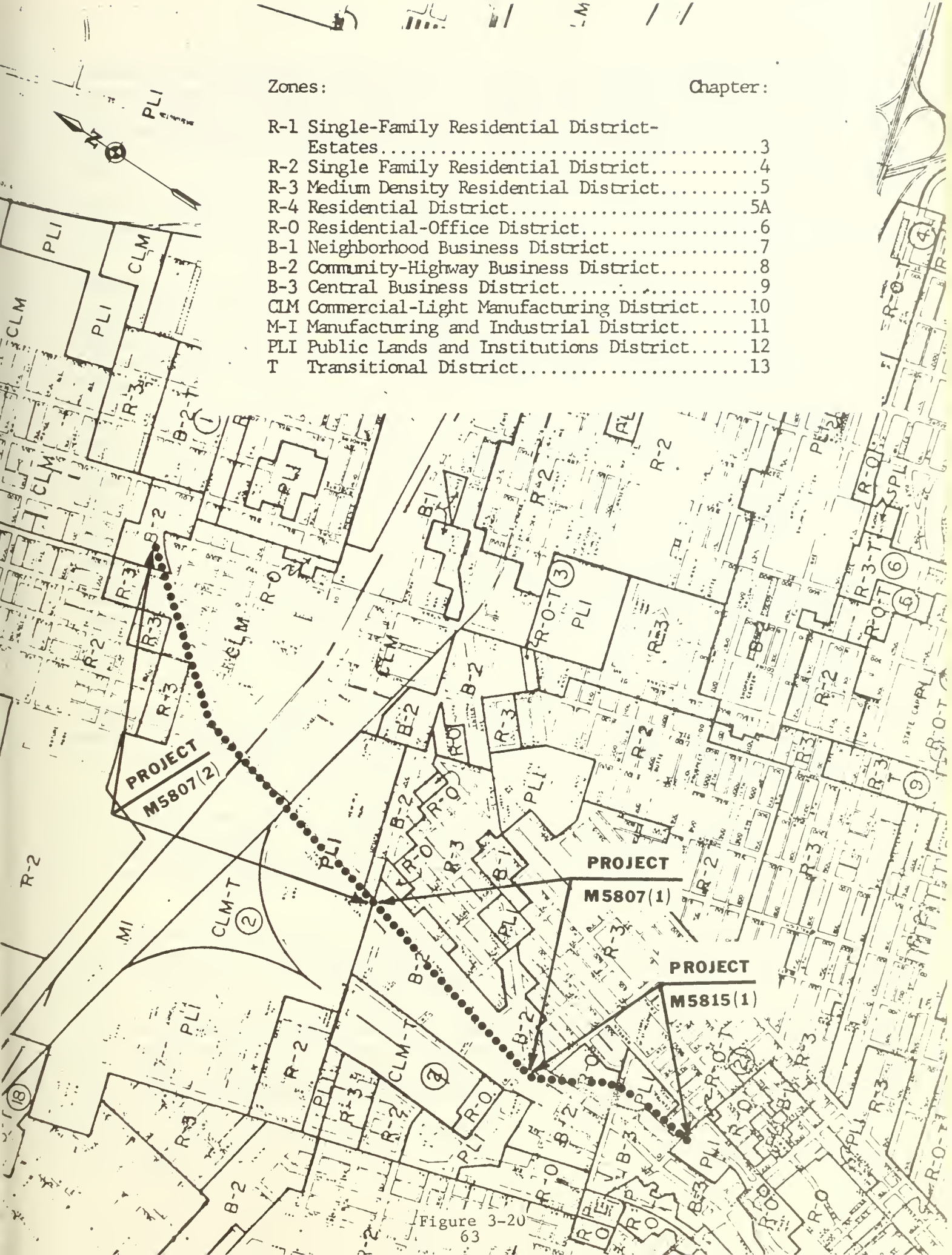


Figure 3-20

Because of the location of numerous government offices in Helena, trade and lobby groups also headquarter in Helena, providing a spinoff economy of those whose work requires them to be close to government officials and offices. These range from Statewide groups to representatives for national groups. A number of service industries related to government also contribute to the economy.

Carroll College, a four-year Catholic liberal arts school has an enrollment of more than 1,300, making it the largest independent institution of higher learning in the State.

Health care is provided by St. Peter's Hospital, Shodair Children's Home and the Florence Crittenton Home. The Veterans Administration Center at Fort Harrison, about five miles west of downtown Helena, includes a general medical and surgical hospital and a regional Veterans Administration Office. The 160 bed hospital has about 300 employees and 31 part-time workers. The regional office staff of 86 employees provides benefits and services to veterans and beneficiaries in the State.

The historical values of Helena not only define the character of the City but also foster a thriving tourism trade. In addition, Helena is located in a region with outstanding recreational opportunities, with the mountains, lakes, rivers, streams and forests. The City is a logical layover for travelers going either to Glacier or Yellowstone National Parks.

Total employment in Lewis and Clark County numbered 18,202 in 1975. The labor force for the month of June 1980 numbered 24,869 of which 23,564 are employed. This represents an increase of 29.5% for the past 5 years. The unemployment for June was 5.2 percent. The State rate (not seasonally adjusted) for June was 6.0 percent.

LAND USE PLANNING

The Lewis and Clark County Areawide Planning Organization is responsible for land use planning for the entire County. This Planning Organization is responsible to a board made up of County and City representatives; they in turn act as advisors to the City of Helena and County Commissions.

The Areawide Planning Organization's scope of duties has resulted in the coordination and development of many plans and studies. Planning elements included population, economics, water, sewer, solid waste disposal, floodplain regulations, land use planning and regulations, Community facilities planning, recreation and transportation plans.

Studies pertinent to the project area are the 1966 Comprehensive Plan and 1970 Transportation Plan, both of which are being updated as well as the 1969 Urban Renewal Plan which was to renew the vitality of the downtown. The northern boundary of this plan was 6th Avenue.

Just completed is the "Helena Downtown Development Study" paid for by the Helena Improvement Society (HIS), a group of landowners and businessmen working to promote the downtown. The study promotes tax increment financing to make public improvements which in turn would encourage further private investment.

The Study recommends creation of an urban design plan including accessibility to the downtown and the extension of Cruse Avenue. It also calls for platting large sections of the area that remain as unplatted mining claims, and rezoning some areas to promote commercial development for pedestrian patronage in the Central Business District. This report is now going through the review and approval procedures of the local governing agencies.

The new tax increment financing district is located between 6th Avenue and Lyndale Avenue and is approximately five blocks wide. The present taxable valuation of the area is \$22 million.

HISTORICAL/CULTURAL RESOURCES

A portion of the downtown area has been designated as a historic district. The Helena Historic District has an irregular pattern and is located between Hauser Boulevard and Acropolis, and between Garfield and Rodney Streets. It was listed in the National Register of Historic Places on June 2, 1972. That part of it within the project area is bounded by Sixth Avenue on the south, North Last Chance Gulch on the west, and East Lawrence on the north. A small strip extends north from East Lawrence, between North Last Chance Gulch and North Jackson, to Placer Avenue (see Figure 3-21).

The nomination form designates the Iron Front Building at 413/415 North Last Chance Gulch and the Old High School at the corner of North Warren and East Lawrence and the Cathedral of St. Helena as significant historic structures. The Cathedral was listed on the National Register of Historic Places, April 30, 1980. The Old Helena High School was recently demolished. The form also designates the one-story commercial structure at 401-409 North Last Chance Gulch as a secondary historic building. The facade of the structure at 401-405 North Last Chance Gulch was changed in 1973. The remainder of the Historic District in the project area is comprised of institutional and other commercial structures. Most are masonry, and many date from about the turn of the century.

The Federal Highway Administration has asked the Secretary of Interior whether the following buildings are eligible for the National Register:

- St. Helena School, 529 North Warren Street (Southwest corner of intersection at 11th Avenue and North Warren Street).
- Montana Powder and Equipment Company, 12 East Lawrence Street (Northeast corner of intersection at Jackson Street and Lawrence Street).
- National Guard Armory, 1100 North Last Chance Gulch (Northwest corner of intersection at North Last Chance Gulch and Lyndale Avenue).

Two recreation areas, under the jurisdiction of the City of Helena, are located adjacent to North Last Chance Gulch between Memorial Drive and the Burlington Northern spur tracks. Bausch Park to the west and Memorial Park to the east are developed for the use and convenience of the public and are dedicated. Adjacent to Bausch Park there is a new YMCA facility and a 16-unit horseshoe complex.

FLOOD HAZARD, VEGETATION, FISH AND WILDLIFE

Neither the Corps of Engineers or the Montana Board of Natural Resources has designated any segment of Project M5815(1), and M5807(1) and (2) within the 100 year floodplain.

The predominant natural flora surrounding the area is grass. In the built-up urban areas along the proposed project, the native flora has been replaced with domestic varieties of grass, shrubs and trees. There are no creeks, streams or rivers adjacent to or within the project area. The rural area surrounding Helena has abundant wildlife, but because of the urban development around the proposed projects disruption of wildlife environment is not a concern.

RACIAL, ETHNIC, OR RELIGIOUS GROUPS

The project area is not associated with any particular minority or ethnic groups. There were large numbers of such groups (e.g., Chinese, Jews, Germans) in some blocks from the mining days to about the turn of the century, but none appear to be especially associated with any part of the project area. The probability of some families of other minority groups living in this area exists (e.g., American Indian and Spanish). However, there is no concentration of these families in the area involved. The Helena Indian Alliance is located downtown but their location will not be affected by the projects.

UTILITY SYSTEMS

Services within the project area are provided by: Montana Power Company - electrical and natural gas; Mountain Bell - telephone; Helena Cable TV, Inc. - cable television; City of Helena - sewer and water.

PUBLIC FACILITIES

The project corridor provides access to a number of City, County, State and Federal offices.

The Cruse Avenue Extension would provide direct access improvement to the following public facilities located in the Helena downtown area:

- Federal Office Building
- Commissioner of Higher Education
- Divisions of the Department of Labor and Industry
- Divisions of the Department of Health and Environmental Sciences
- Neighborhood Center
- City-County Office Building
- County Courthouse and Jail
- Post Office (downtown branch)

Proceeding north, the corridor passes within three blocks of the Civic Center and Police and Fire Departments, located at the intersection of Neill and Benton Avenue.

From Neill Avenue to Lyndale Avenue the corridor passes within three blocks of:

- Divisions of the Department of Health and Environmental Sciences
- Job Service Offices
- Divisions of the Department of Business Regulation

From Lyndale to Montana Avenue, the corridor provides access to:

- National Guard Armory
- Public Parks
- Helena YMCA
- Municipal Swimming Pool
- Hendricks' Field (American Legion Baseball Field)

Public Schools located within the area serviced by the project corridor are:

<u>Name</u>	<u>Enrollment</u>	<u>No. Buses</u>
Hawthorne Elementary School	180	3
Central Elementary School	300	3-4
Helena Junior High School	756	10
Alternate School	60	-

Shodair Children's Hospital, a full service hospital specializing in the care of children from infancy through age 16, and the Florence Crittenton Home for unwed mothers, are located on North Warren and Helena Avenue, three blocks east of North Last Chance Gulch.

Carroll College is located north of Lyndale Avenue and east of Benton Avenue.

There are also ten churches located within four blocks of the project corridor.

AIR QUALITY

Helena is located in the Prickly Pear Valley at an elevation of approximately 4000 feet above sea level. The valley is surrounded by mountains on three sides forming a "bowl" effect. This topographic feature has the greatest effect on the air pollution of Helena. Although the air quality of Helena is generally good, air pollutants can become trapped in the valley due to temperature, inversions, and low wind speeds. However, violations of the air quality standards in the Helena area are rare.

Wind speed and wind direction are important parameters in determining where and how fast air pollutants are transported. Wind directions in the Helena area are predominantly from the west with relatively infrequent winds from the east. The three sections of west-northwest, west and west-southwest directions account for about 45 percent of the winds annually. Calm conditions occur about 9 percent of the time. However, wind speeds less than or equal to 3 miles per hour occur about 36 percent of the time. These are the low wind speed conditions that tend to allow air pollutants to accumulate.

The Helena Valley is ideal for the formation of strong and persistent inversions. The factors favoring inversions are the altitude, relative dryness, long winter nights, lack of cloud cover, and frequent snow cover. The surrounding mountains also favor or enhance the probability of inversions by sheltering the Valley from the wind and causing cold air drainage off the mountains during the nights (EPA, 1972).

The Montana Department of Health and Environmental Sciences, Air Quality Bureau (AQB) has monitored sulfur dioxide and particulate matter in the area. No measurements have been made for carbon monoxide, hydrocarbons, or nitrogen dioxide. Except for the area near East Helena around the lead smelter, the

Helena area is considered an attainment area for sulfur dioxide and particulate matter (meeting the federal ambient air quality standards). For the remainder of the pollutants, the area is considered unclassified. However, the concentrations of these pollutants should be low in the Helena area. Table 3-4 lists the sulfur dioxide and particulate matter concentrations measured in the Helena area. The Helena area is classified as Class 11 under the Federal Prevention of Significant Deterioration regulations. The nearest Class 1 area is the Gates of the Mountains area 18 miles north of Helena.

Table 3-4
HELENA AREA AIR QUALITY DATA

<u>Pollutant</u>	<u>Latest Year of Record</u>	<u>Maximum 1-Hour</u>	<u>Concentration 24-Hour</u>	<u>Annual Arithmetical Mean</u>
Total Suspended Particulate	1979	--	211 ug/m ³	60 ug/m ³
Sulfur Dioxide	1977	0.40 ppm	0.06 ppm	0.01 ppm

No detailed inventory of the air pollution emissions of the Helena area is available. Significant point sources of air pollution include the lead and zinc smelter at East Helena and several gravel crushers in the area. Major sources of air pollutants from area sources include automobile emissions, home heating, and fugitive dust from streets and agricultural operations.

NOISE

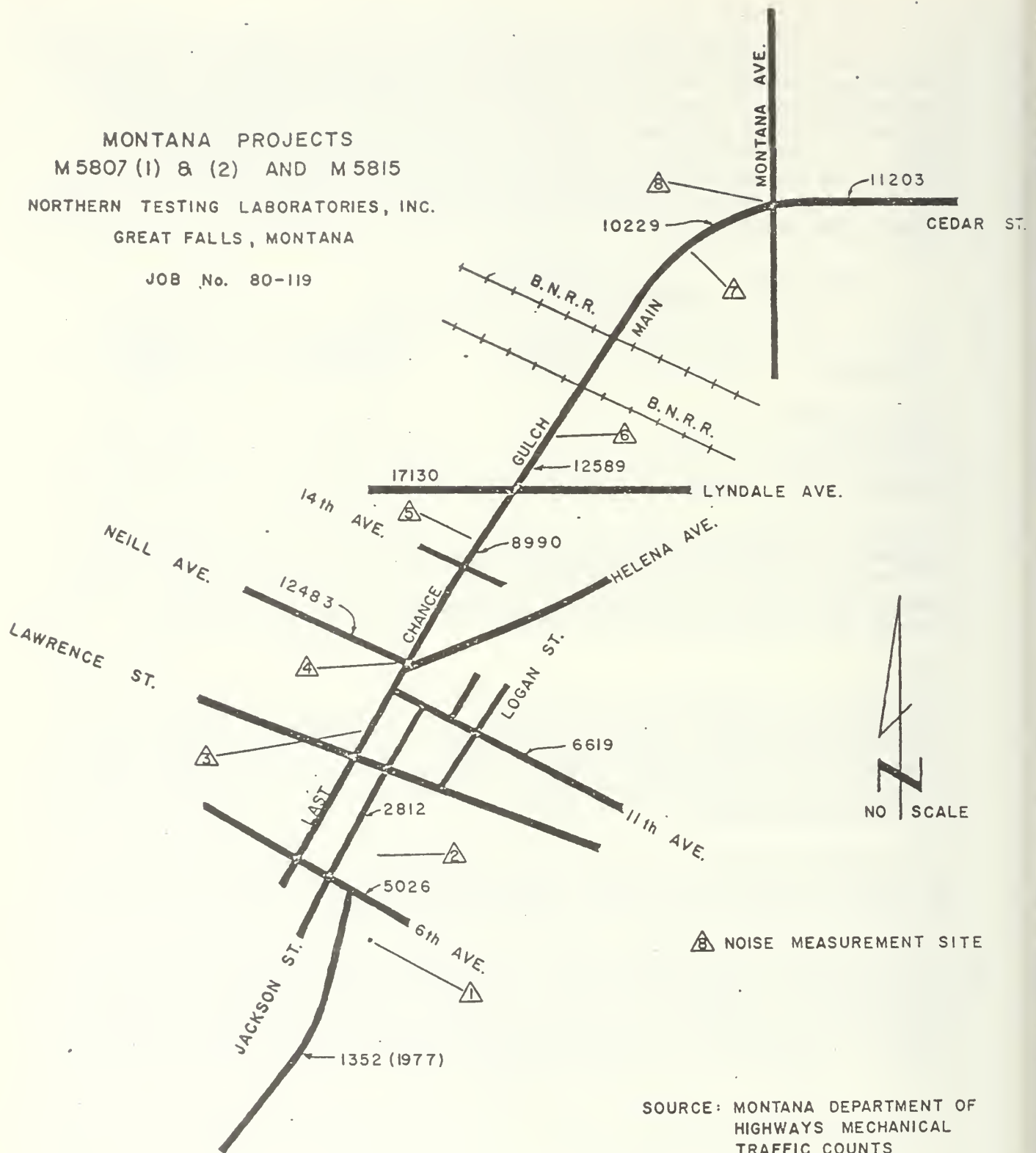
Introduction. A study of existing noise levels was prepared. Noise-sensitive areas were identified, located and cataloged. The area through which the proposed projects will pass is developed urban space primarily commercial, recreational and bordering residential. Existing noise levels were established by field measurements.

Baseline Measurements. Baseline acoustic measurements were made on May 4 and from May 11 through 14, 1980. The eight locations at which measurements were made are shown in Figure 3-22 and described in Table 3-5.

Fifteen to twenty-minute measurements were made at each site. Twenty-four hour measurements were made at Site Nos. 1 and 5. Morning and afternoon measurements were made at all except Site No. 3 (Last Chance Gulch business area) which was measured only during the noon hour peak traffic period and Site No. 6a (Memorial Park band shell) which was measured on a quiet Sunday evening. Results are presented on Figure 3-23.

MONTANA PROJECTS
M5807 (1) & (2) AND M5815
NORTHERN TESTING LABORATORIES, INC.
GREAT FALLS, MONTANA

JOB No. 80-119



1979 AVERAGE DAILY TRAFFIC AND NOISE MEASUREMENT LOCATIONS

Table 3-5
NOISE MEASUREMENT SITES - DESCRIPTION

<u>Site</u>	<u>Location</u>
1. Cruse Drive Parking Lot	150' E of Cruse, 150' S of 6th.
2. Central School	On playground at edge of bluff overlooking corner of Allen, 118' distance.
3. Last Chance Gulch	Opposite Templeton Hotel. Van parked at curb adjacent to south-bound traffic lane.
4. Last Chance Gulch at Neill	NW corner, approximately 40' from each curb.
5. Last Chance Gulch at Hustky Station	84' W of centerline of Last Chance Gulch.
6. Memorial Park	In parking lot, 90' E of Last Chance Gulch curb.
6a. Memorial Park	In open area near band shell.
7. National and Last Chance Gulch	40' S of centerline of Last Chance Gulch.
8. Last Chance Gulch at Montana	In service station, 55' N of curb, 42' W of Montana Street curb.

NOISE LEVEL SUMMARY (dBA)

Site	Location	Date	Time	45	55	65	75	Comments
1 - Cruse	at 6th	5-11	Night					Sunday Eve, very light traffic
		5-12	Day					
		5-14	8:30 A					Pickup accelerating uphill.
		5-14	4:00 P					
2 - Central School		5-14	9:00 A					Chimes.
		5-14	3:30 P					
3 - Last Chance Gulch at Templeton Hotel		5-14	11:45 A					Van parked adjacent to traffic lane
4 - Last Chance Gulch at Neill		5-14	8:00 A					Pickup accelerating.
		5-14	4:15 P					
5 - Last Chance Gulch at Husky Station		5-12	Night					
		5-13	Day					
		5-12	9:00 P					
		5-13	AM					
6 - Memorial Park (6a)		5-4*	9:00 P					Heavy Truck.
		5-14	6:15 A					
		5-14	3:00 P					
		5-14	Night					
7 - Last Chance Gulch at National		5-14	6:45 A					Heavy Truck - uphill.
		5-14	4:15 P					
8 - Last Chance Gulch at Montana		5-14	7:15 A					
		5-14	5:00 P					Motorcycle - peak traffic period.

LEGEND: L₉₉ L₉₀ L_{eq} L₁₀ L₁

*Near Bandshell.

NOISE LEVEL SUMMARY (dBA)

Figure 3-23

WATER QUALITY

Existing storm water runoff along the project corridor is collected by the City's storm water trunk system located along the low point of the gulch just west of Last Chance Gulch.

The City of Helena trunk system discharges into the Ten Mile Creek drainage, which in turn discharges into the Missouri River. The City does not have storm water treatment at the outfall. The City of Helena has just completed a "Master Drainage Plan" which recommends enlarging the existing storm system to handle runoff from Orofino and Grizzly Gulch. The new system will be near or adjacent to the existing trunk system. The plan recommends both closed and open channel systems. Detention ponds are proposed for runoff in excess of the 100 year event. The plan also proposes a retention and infiltration pond for treatment. Improvements along this segment have not been programmed at this time.

The Helena Highway Maintenance Division generally does not use de-icing chemicals for removing ice from roadways. Instead, sand is used to improve the skid resistance. Salt, amounting to about 280 pounds per cubic yard of sand, is introduced into the sand to prevent the stockpiles from freezing and to aid spreading. The Highway Department has a street sweeping program and disposes of the waste. The City of Helena adds about 50 pounds of salt per cubic yard but will apply straight salt during severe winter conditions. The City has routine sweeping and flushing programs. Some salt and sand will reach the Ten Mile drainage and the Missouri River through the storm sewer system along with other floating contaminants such as gas and oil.

CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

LAND USE

Improved accessibility created by the proposed new arterial will increase the potential uses and market value of land in the area served. The improved access will increase business activity improving the financial status of existing businesses and encouraging new businesses to locate in the downtown area. Multi-family residential units located within the downtown area will become more attractive with improved access to other parts of the urban area.

The nature of most of the business activity north of Chestnut Street is auto-oriented. The improved arterial should not affect the established land use pattern. The land south of the arterial to the railroad tracks is zoned commercial - Light Manufacturing. The improved arterial would be compatible with these uses.

To the north the auto-oriented business activity along the arterial is not compatible with residential development such as would be the case within the Central Business District. Residential development adjacent to these businesses will probably continue to decline or be primarily high density development.

CONSERVATION AND PRESERVATION

Historical/Cultural/Recreational Impacts

Project M5815(1) Cruse Avenue and Project M5807(2) North Last Chance Gulch build Alternates will impact historical resources and recreational lands.

The projects, therefore, are subject to Section 106 of the National Historic Preservation Act of 1966 and Section 4(f) of the Federal Aid Highway Act of 1968. Title 36 CFR 800 states that a Federal undertaking has an effect on a National Register or eligible property whenever any condition of the undertaking causes or may cause any change, beneficial or adverse, in the quality that qualifies the property to meet the criteria of the National Register. Adverse effects on National Register or eligible properties may occur under conditions which include, but are not limited to: 1) destruction or alteration of all or part of a property, 2) isolation from or alteration of the property's surrounding environment, 3) introduction of visual, audible or atmospheric elements that are out of character with the property or alter its setting, 4) transfer or sale of a property without adequate conditions or restrictions regarding preservation, maintenance or use. Section 4(f) of the Department of Transportation Act (Public Law 89-670) states that the Secretary of Transportation shall not approve any project which requires the use of land from a recreational and/or historic site unless: 1) there is "no feasible and prudent alternative to the use of such land" and 2) the program includes all possible planning" to minimize harm.

Historical Research Associates, Missoula, Montana, prepared a survey of historical resources within the project area. This report was submitted to the State Historical Preservation Officer (SHPO) for review and SHPO concurred

with the assessment of potentially significant structures. The only buildings lying outside the Historic District that appear likely to be impacted and where considered significant enough to warrant seeking a determination of eligibility are the St. Helena School, Montana Powder and Equipment Company and the National Guard Armory.

Project M5815(1). Between Sixth Avenue and Lawrence Street the new alignment lies within the Helena Historic District, listed on the National Register, June 2, 1972. The project would have an adverse effect by taking of two buildings. The project also creates an adverse effect on the Historic District by bisecting the District and the school block. The street's extended width and length would alter the character of this part of the District. See Figure 3-21 for Historic District Boundary and inventory of individual structures.

The St. Helena School is recommended for taking in Alternate 2 along with the Catholic Center. The Montana Powder and Equipment Company Building is not recommended for taking but its setting may be considered as being altered.

The only action to avoid the Historic District would be the minor or no-action alternatives.

Project M5807(1) North Last Chance Gulch - Neill to Lyndale Avenue. This segment does not have an adverse effect on any significant resources.

Project M5807(2) North Last Chance Gulch - Lyndale to Montana Avenue does have an adverse effect on potential significant resources. Historical Research Associates listed the Montana National Guard Headquarters, situated on the northwest corner of Lyndale intersection, distinctive enough to warrant a determination of eligibility for listing on the National Register of Historic places based on architectural design. It is proposed to take an eight foot border strip along North Last Chance Gulch to widen the right-of-way to accommodate four lanes, median and sidewalks.

Subject to widening the present traveled way along Bausch and Memorial Parks to four lanes and offsetting the alignment to the west at the railroad overpass there will be need for Park taking and construction permits. The build alternate is described within the letter addressed to the City of Helena requesting a "determination of significance" and their response on page 76 to 83.

Under the build alternate proposal the City considered the improvement to be of "minimum significance" and endorsed the project. Since there is a taking, a section 4(f) statement will be required along with the final Environment Impact Statement if the build alternate is determined to be feasible and prudent and it is in the public interest to proceed.

August 7, 1980

Mr. Robert A. Erickson
City Manager
City-County Building
316 North Park Avenue
Helena, Montana 59601

RE: M5807(2)
Helena, Montana

Dear Mr. Erickson:

The firm of Koehnlein Lightowler Johnson, Inc., Consulting Engineers, has been retained by the State of Montana, acting through the Department of Highways, to prepare the Draft and Final Environmental Impact Statement for Project M5817(1) Cruse Avenue from 6th Avenue to Neill Avenue, Project M5807(1) North Last Chance Gulch from Neill Avenue to Lyndale Avenue and Project M5807(2) North Main Street from Lyndale Avenue to Cedar Street to Montana Avenue. Project M5807(2) will basically follow the existing roadway alignment along Bausch and Memorial Park. A full four-lane facility is being studied to handle the anticipated year 2000 traffic in this segment.

Since it is probable that some form of Federal financing would be involved in this project, a "determination of significance" must be requested from "the local officials having jurisdiction" over Bausch and Memorial Park. The draft E.I.S. is not expected to be published until the end of November but early coordination with local officials will assist in the identification of significant impacts.

At the onset of this project a Steering Committee was formed to review, make suggestions, and concur in the alternatives developed by the Consultant. Mr. Mulcahy, City of Helena Park Director, has sat in on one of the Steering Committee meetings and participated in the discussion of the four-lane facility. I did meet with the City Commission at a work session on June 4 to review the status of the study as of that date.

The following is a resume of the planning and design decision relative to the park lands.

KOEHNLEIN
LIGHTOWLER
JOHNSON
INCORPORATED
ARCHITECTS
ENGINEERS

4509 NORTH STAR BLVD.
P.O. BOX 6039
GREAT FALLS, MT 59406
PHONE (406) 453-5478

Mr. Robert A. Erickson, City Manager

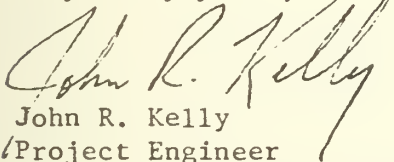
Page 2

August 7, 1980

- 1) 1979 traffic on this section is 12,850 vehicles per day. The projected year 2000 traffic ranges from 17,000 to 18,400 vehicles per day. A four-lane, two-way arterial street has the capacity to meet this traffic demand through the planning period.
- 2) The two railroad structures over the Burlington Northern will be reconstructed to meet present railroad clearance criteria and to accommodate four lanes. Clearance criteria will require that the grade be raised 4.2 feet, more or less, at both bridges.
- 3) Four alternates were originally considered:
 - a) Four-lane with 14 foot median following present alignment.
 - b) Four-lane with 14 foot median offsetting the centerline alignment to the west between railroad bridges.
 - c) Four-lane with no median offsetting the centerline alignment to the west between railroad bridges.
 - d) No build and/or minor upgrading.
- 4) The reason for the offset:
 - a) Maintain traffic throughout the corridor during construction. Structures could be built in stages.
 - b) Raising grade by 4.2 feet has an impact on Montana Power facilities. Offset will allow room to create a grade to blend into the existing improvements.
 - c) Land to the west between structures is not developed.
- 5) The Steering Committee recommended that the Draft E.I.S. address the four-lane, no median with offset as the reasonable build alternative along with the no build. Access along the Park will be limited. Median at Lyndale Avenue will be needed for extra turning lane.

I have enclosed six copies of this letter plus design concepts, comments on the alternate, plan, profile and typical sections to help the City in their determination. Also, I have enclosed excerpts from Federal Register/Vol 44, No. 200/Monday, October 15, 1979, pertaining to Section 4(f) Evaluation. If any item needs to be addressed in more detail, please advise.

Very truly yours,


John R. Kelly
Project Engineer

JRK:pd

Enclosures

cc: Gordon Larson, Montana Department of Highways
Harold Ollila, FHWA
Robert Hanson, Director Public Service, Helena
Gus Byrom, APO, Helena
Bill Babcock, Historial Research Associates, Missoula

NEW FOUR-LANE FACILITY - MEMORIAL - BAUSCH PARK

COMMENTS

- 1) Median at Lyndale Avenue will be painted. Memorial Drive will be limited to right-turn only.
- 2) Low point of vertical grade will be at Park entrance. Inlets and buried storm sewer will be proposed to connect to City trunk storm sewer system, west side of Landfill Park.
- 3) Pedestrians and bicycles will be directed into the Park area away from new roadway. Pathways will be programmed under the construction phase of the roadway. Design of the pathways will be coordinated with the City of Helena.
- 4) Existing grass (landscaping) encroaches into present right-of-way by 15 feet (20 feet from centerline of present roadway). New four-lane facility will remove this grass within right-of-way as shown on Park Impact Plan.
- 5) Bausch Park drops off from the present roadway grade. Widening the roadway will require embankment material be placed. The recommended slope will be 6:1 but will vary if trees or shrubs need to be preserved. Area will be seeded or sodded as per the direction of the City.
- 6) Entrance to Memorial Park will be placed opposite existing entrance to Bausch Park and other facilities to the west. This will mean removing of a tree. The existing entrance to Memorial Park will be closed and landscaped.
- 7) From the Park entrance to the north the vertical grade will change (raised) to meet the new clearance of the new Railroad Bridge. Retaining walls will be constructed to lessen Park Impact. Concrete median rail in lieu of curb will be used for a safety consideration. (Concrete rail is shown on Railroad Structure Section)
- 8) The existing entrance into Memorial Park just south of the Railroad Bridge will be closed.
- 9) Pedestrian and bicycles will be channeled to the railroad structure by construction of a ramp from existing ground line to the structure at 5% grade (handicap consideration). Adjacent to this ramp, another ramp will be constructed that will direct pedestrians and bicycles under the railroad structure to a path on the bridge berm to link Memorial Park to Bausch Park.

10) Possibly one to two trees might be removed in Bausch Park subject to construction of the pedestrian ramp. Subject to final design plans this might be circumvented.

11) The landscaped area lost by the roadway could be replaced by a landscape/beautification project in the immediate area that is not now developed.

Example: .

a) Nearball fields in Landfill Park.

b) Access area into Memorial Park south of the bridge, which will be closed, could be landscaped.

12) All irrigation system disrupted will be replaced as per the direction of the City.

13) Street lighting will be perpetuated.

COMMISSIONERS
RICH D. BROWN, MAYOR
DALE L. JOHNSON
MICHAEL J. DASILVA
RUSSELL J. RITTER
JAMES H. NYBO



CITY-COUNTY ADMIN. BLDG.
316 N. PARK AVE.
HELENA, MT 59601
PHONE 406/442-9920

City of Helena, Montana

September 19, 1980

Mr. John R. Kelly
4509 North Star Boulevard
P.O. Box 6039
Great Falls, MT 59406

RE: M5807 (2) Helena, Montana

Dear Mr. Kelly:

In response to your letter of August 7, 1980, relative to subject project, I have instructed our staff to analyze this project relative to the possible impacts on Memorial and Bausch Park property and wish to offer the following comments:

The park land in question is under sole ownership and jurisdiction of the City of Helena, Montana. Both areas are considered to be dedicated park land for the use and convenience of the public and are dedicated in perpetuity. In addition to these dedicated parks, the City has acquired additional property to the west of Bausch Park, which has been incorporated into a long-term development plan for expanding the recreational potential of the general area. This land has served as the City of Helena Landfill site for the last ten years, and as the landfill operations are completed, the area has been developed into little league parks in keeping with the long-term master plan for development of the entire area.

Memorial Park, which is situated to the east of the proposed improvements is completely developed. The principle public facilities within that park are: a municipal swimming pool, a band concert shell, a baseball park with large seating capacity for legion, semi-pro and professional baseball program, winter skating facilities, considerable open landscape space, a memorial to the first special forces group from Helena, and other incidental recreational facilities. Bausch Park, which is located to the west of the proposed improvements, is a 250 foot wide strip of land adjacent to and parallel with North Main of which only approximately 100 feet immediately adjacent to the street has been landscaped and improved as park property. Adjacent to Bausch Park, a new YMCA facility has been developed in the last few years along with the 16-unit horse shoe complex, all of which lend themselves to the future Master Plan discussed earlier.

The Public Service Department has evaluated the proposed four-lane facility and wishes to acknowledge the following design concepts and/or comments concerning same:

- 1) That a four-lane facility is necessary to handle the anticipated year 2000 traffic. This corridor is the only North-South route that has a grade separation over the Burlington Northern trackage except for Interstate 15. I-15 is over a mile to the East which does not relieve traffic burdens on arterials in the Helena Central Business Zone.
- 2) The offset alignment is necessary to program detours in order to maintain traffic during construction. The existing Montana Power Facility should be considered as an important function in the area. The offset will lessen the impact on landscaping and traffic operation of this facility.
- 3) The useage of the two parks, east and west of the proposed improvements, are presently independent of each other. It is anticipated, however, that as the park property on the west develops that there will be a need for a link between the two areas. The proposal for a pedestrian/bike path under the bridge structure will in part provide this link which does not exist today. This will be a definite improvement to the total area and will be a safety asset to pedestrian access from one area to the other.
- 4) The design consideration of moving the pedestrian/bike path away from the traffic lanes will minimize conflicts and will be a good safety improvement.
- 5) The programming of a storm sewer to intercept runoff caused by the wider highway section is a positive feature and endorsed by the City.
- 6) The restoration of adjoining fill slopes at a flat slope to permit extensive relandscaping and/or conservation of existing vegetation plus all work areas will be part of the improvements.
- 7) The right turn only condition for Memorial Drive, the moving of Memorial Park entrance to a point opposite Bausch Park entrance and the closing of the north access point just south of the existing railroad structure, is acknowledged and recognized as necessary for safety plus physical restraints caused by the new higher grade and longer bridge structure.
- 8) The City recognized, but does not concur, that additional clearance has been requested by the Railroad Company, and the raised grade should be part of the impact analysis. The use of retaining walls will minimize park encroachment and concrete barrier rails will be a safety feature. The design consideration for the handicap especially subject to access to and from the railroad structure (across and below) is a desirable design feature.

- 9) The Park property to be taken is only in the northeast corner of Bausch Park and encompasses about 5,000 to 6,000 square feet. The Park stone cul-de-sac will remain intact. The horseshoe pits will not be disturbed.
- 10) There is no detailed inventory available of the air pollution emissions in the Helena area but increased levels of traffic-generated total suspended particulate matter will be offset by the installation of curb and gutter along the Park frontage. It is our understanding that the new Montana Standard for carbon monoxide will not be exceeded by the proposed development and the additional traffic increased noise prediction for the Park area will have minimal impact.

Subject to the determination as itemized above, we are of the opinion that the taking of 5,000 to 6,000 square feet of Bausch Park and the granting of construction permits is of minimum significance under the built alternate. In fact, this alternate, as proposed, in our opinion would tend to be of significant improvement to the general area in terms of better utilizing the facilities as they develop in our long-range master plan. As this area develops and as the traffic volumes increase as projected, this project will become more necessary, and therefore, the City of Helena would recommend that the build alternate, as proposed, be constructed.

If the Department of Highways determines and the City Commission concurs that it is in the overall public interest to utilize the publicly owned land, the City requests the following:

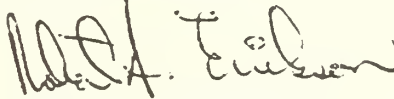
- 1) That the City reserves the right, subject to final approval of contract documents, to request that the Highway Department landscape and beautify an area equal to any park lands taken for this project. It is suggested that these improvements be designated on land immediately adjacent to Bausch Park which land is currently under the control and ownership of the City of Helena.
- 2) That since there will be some restricted access off of Main Street into Memorial Park that the project do include improvements of access from Lyndale Avenue on Ewing and Logan Streets.
- 3) That the City retain the right to approve or make recommendations as to location and general construction details for the pedestrian/bike path built within the park boundaries.
- 4) That the City retain the right to recommend design considerations as to materials to be used in retaining walls, railings, plantings, contours, and other appurtenant facilities constructed in conjunction with this project that may affect the aesthetics of the park lands.

- 5) That the state agree to continuing monitoring pedestrian movements within the area and that should such movements in the future warrant additional pedestrian considerations through use of signalized intersections, pedestrian overpasses and underpasses, or other acceptable methods to ensure the safety of pedestrian and bicycle traffic.

The City will continue to work with you, the Highway Department, and the Federal Highway Administration in the development of this and other projects which are in the planning stage. Should additional comments be required, please notify us at your convenience, and we will comply.

Sincerely,

CITY OF HELENA

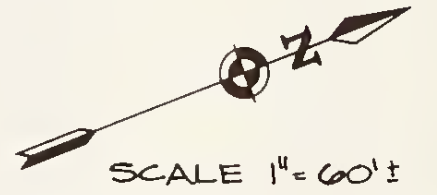
A handwritten signature in dark ink, appearing to read "R.A. Erickson", written over the typed name.

Robert A. Erickson
City Manager

RAK:lmn

cc: Gordon Larson, Montana Highway Dept.

BRIDGE-ROADWAY-APPROACH SIDEWALKS = 5200 SQ. FT. MORE OR LESS
APPROX. 750 TO 770 LINEAL FEET 8' SIDEWALK - WEST & EAST
TEMPORARY CONST. EASEMENT } - MEMORIAL PARK 3,400 SF±
(EXCLUDING SIDEWALK) } - BAUSCH PARK 13,000 SF±
NEW ENTRANCE, MEMORIAL PARK 600 SF

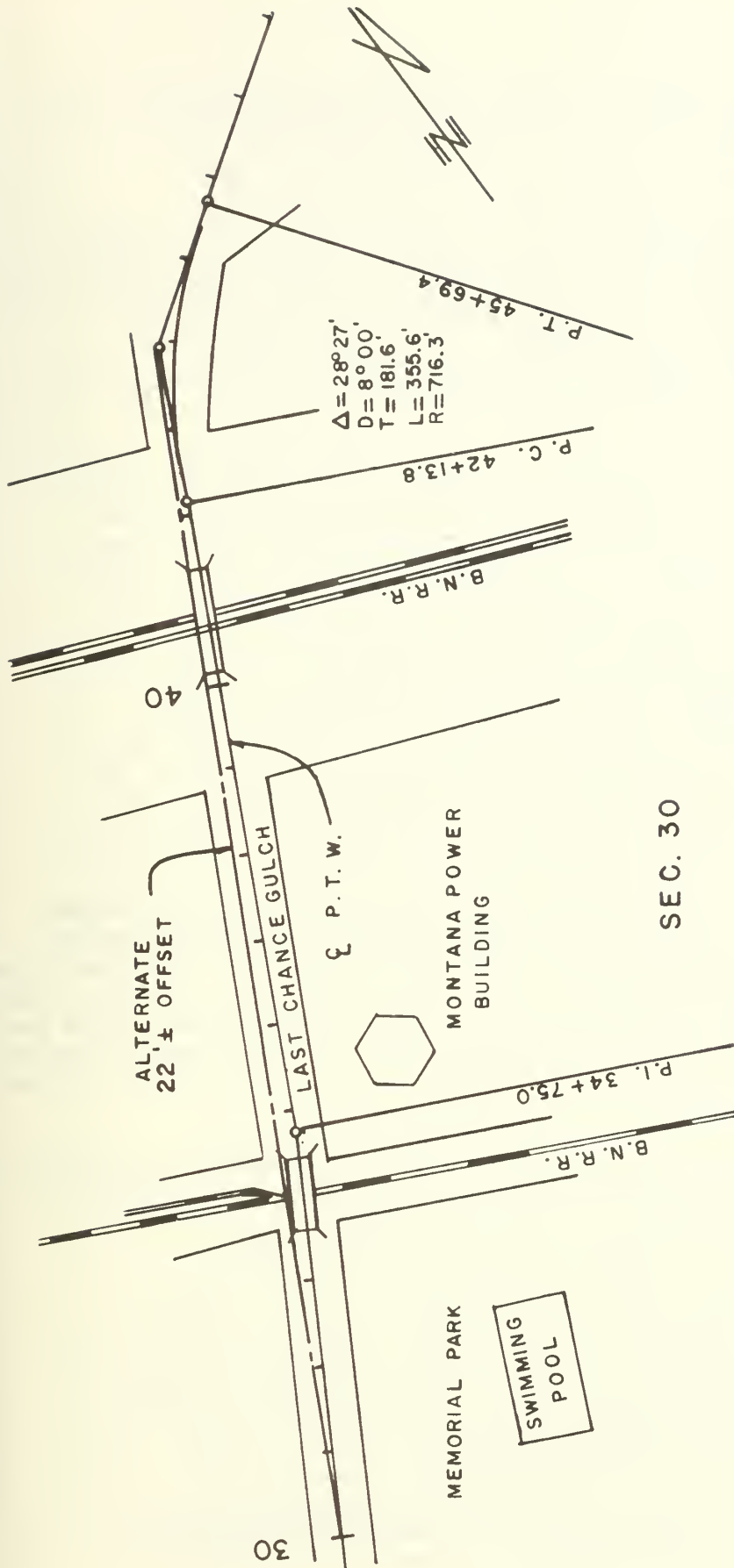


----- PROPERTY LINE
===== CURB & GUTTER
===== CONC. RAIL
//////////////////// SIDEWALK/BIKEPATH



TREE

**KOEHNLEIN
LIGHTOWLER
JOHNSON, INC.**



SEC. 30

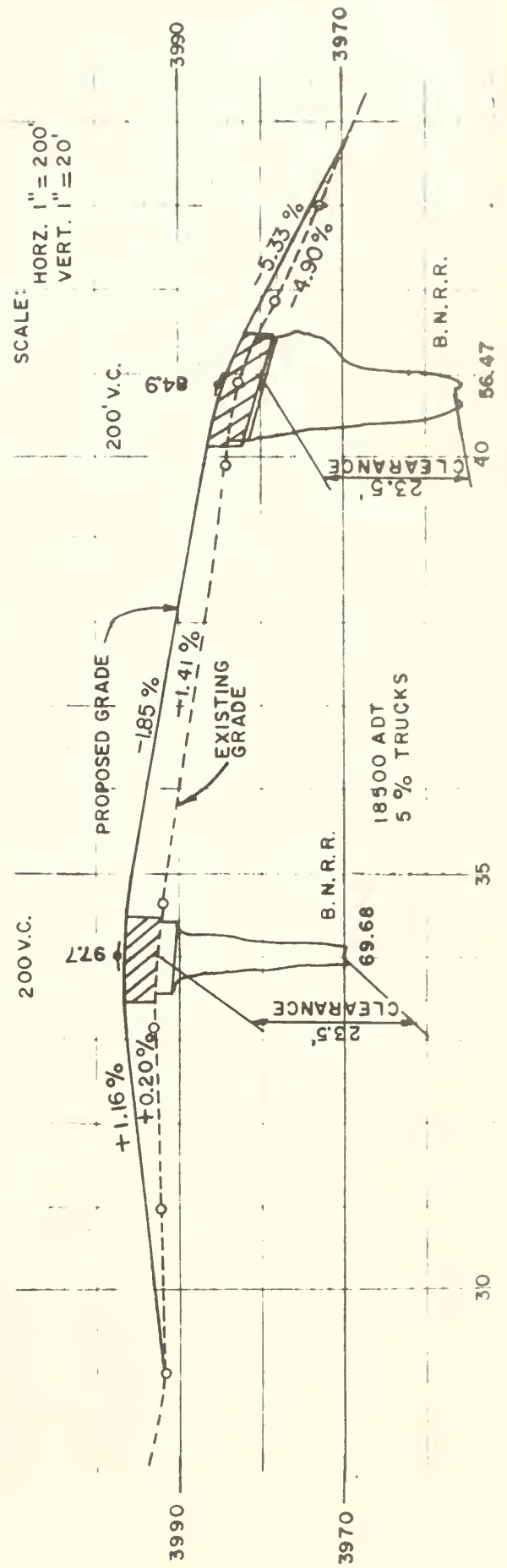


Figure 4-2
85

Mitigation Measures. There does not appear to be any reasonable build alternate for Cruse Avenue to avoid impact to the Helena Historic District.

The two buildings recommended for taking within the District are:

- 315 Allen Street (Northeast corner of the intersection at Cruse Avenue and Sixth Avenue). This building was built between 1920 and 1930 and later remodeled (added to). It is not known to be associated with persons or events that meet National Register criteria for historic significance. The structure does not contribute to the integrity of the Historic District. Demolition of this building will be necessary subject to the build decision.
- School Administration Building at Seventh Avenue and Allen Street. This structure was built in 1911. It was the Domestic Building for Central School, the High School and other public schools in the area. It became the Administrative Office for Helena School District No. 1 in the 1930's. The structure is associated with two other existing school structures in the block. Because of the consistent nature of its use and its long association with this site, it meets National Register criteria for local historic significance. Demolition of this building will be necessary subject to the build decision. If this structure is razed, appropriate mitigation measures may include proper documentation by recording (photographs, drawings and records) subject to the criteria of Historic American Building Survey Standards. The structure can be made available, at no cost, to any interested party that desires to move it to another location.

The adverse impact of a roadway within the Historic District will be lessened by design characteristics. Retaining walls will be used to lessen right-of-way taking along the 300 Block parking lot. A retaining wall will be constructed along the west boundary line of the School Property. This wall will be in stone, matching the existing walls as near as possible. The natural slopes of cut section will be utilized in some reaches. All border strips disrupted by construction will be revegetated. The new roadway will blend into the existing environment.

There are three buildings outside the Historic District considered potentially significant structures; therefore, mitigation of the impacts will be required.

- St. Helena School, 529 North Warren Street, recommended to be taken by Alternate 2. This structure was built in 1908. It served as the Catholic grade school from 1908 until 1968, and the program office for several government departments. The structure is located next to the Cathedral of St. Helena, a National Historic Landmark. Because of the structure's long association with the Cathedral, it meets National Register criteria for local historic significance. Because of the size of this structure, demolition will be necessary if Alternate 2 is selected. Appropriate mitigation measures may include proper documentation by recording (photographs, drawings and records) subject to the criteria of Historic American Building Survey Standards.

- Montana Powder and Equipment Company at 12 Lawrence Street (Northwest corner of the intersection of Jackson Street and Lawrence Street). This structure was built before 1900. The property meets criteria found in 36 CFR 60.6 established by the Secretary of the Interior and is potentially eligible for listing on the National Register of Historic Places. The existing structure is bounded by streets on the south and west and by off-street parking lots on the east and north. The new roadway will be constructed along the east side. There will be a 20 to 25 foot border strip between the new curb and building face. There should be no detrimental effect to the active economical life of the structure and no future mitigation is proposed. The project should have no adverse effect on the building.
- National Guard Armory, 1100 North Last Chance Gulch (Northwest corner of the intersection at Lyndale Avenue and Last Chance Gulch). This structure was built in 1942 and is the headquarters for the Army National Guard. This property meets criteria found in 36 CFR 60.6 established by the Secretary of the Interior and is potentially eligible for listing on the National Register of Historic Places. It is proposed to take an eight foot border strip along North Last Chance Gulch to accommodate four lanes, median and sidewalks. The project will revegetate the boulevard disrupted by construction and plant trees and shrubs to screen the building from the roadway. The existing landscaped border strip is approximately 40 feet. See Appendix C for letter from National Guard.

The projects will have an adverse effect upon property included in or eligible for inclusion in the National Register of Historic Places, therefore, the final environmental statement will include either an executed Memorandum of Agreement or comments from the Advisory Council on Historic Preservation after consideration of the project and an account of actions to be taken in response to the comments. Procedures will follow Title 36 CFR Part 800.

Bausch and Memorial Parks between Memorial Drive and Burlington Northern spur track impact will be lessened by the following design concepts:

- Moving pedestrian/bicycle paths away from traffic lanes.
- New pedestrian/bike path under the bridge structure to link the two Parks.
- New storm sewer system.
- Use of retaining walls will minimize encroachment.
- Adjustment and closing of Park entrance for traffic and safety consideration.

There is ample land west of Bausch Park that is now being used as a landfill operation that can be developed into recreational use. The City has suggested that some of this area, equal to any Park lands taken, be landscaped and beautified. The project will include improvement of the existing accesses from Lyndale Avenue to Memorial Park at Ewing and Logan Street. The City will be involved in design of the pedestrian/bike path and retaining walls. The City will also be involved in fill slopes, contour grading, relandscaping and any other appurtenant facilities subject to this project that may affect the aesthetics and use of the Park lands.

Subject to a structural analysis of the existing railroad bridges a determination might be made to construct two lane parallel independent structures. This will reduce the centerline offset from approximately 22 feet to 12 feet. The existing horizontal and vertical clearance from the tracks would be maintained. Subject to not raising the grade the impacts to the Park Property will be lessened and the Montana Power Facilities landscaped area could remain basically intact, excepting the closure of one approach.

If future consideration is given to construct a continuous median for the full length of the project, this will require widening the typical section seven feet on both sides. Besides the additional cost, additional land taking from the Park at the bridge approach and construction permit within the Parks, other impacts would be:

- The east side of the stone wall forming a cul-de-sac in Bausch Park would be reconstructed to separate the wall from the new curb alignment.
- Greater embankment area to the west along the Parks.
- Additional tree removal on the north end of Bausch Park.

Vegetation and Aesthetics

Within the Central Business District along the alignment of New Cruse Avenue there are a few segments of existing landscaping that would be impacted by the project. The areas that would be disrupted are:

- Trees, grassed area and stone retaining wall at the School Administration Building.
- Large hedges, bushes, native grasses and miscellaneous vegetation near the residence at 501 North Jackson (Alternates 2 and 4 only).
- Trees and vegetation within the boulevard along 11th Avenue east of Jackson Street.
- Alternate 2 would disrupt the trees and vegetation in the south boulevard along 11th Avenue between Ewing and North Warren Street and along the north boulevard on Lawrence Street just west of Logan Street.

The hill between 7th Avenue and Lawrence Street will cut back so the new roadway will match the existing grade of the parking lot to the west and Lawrence Street. Alternates 2, 3, and 4 will require the removal of the embankment between Placer Avenue and 11th Avenue east of Jackson Street. Fill will be required between Jackson Street and Last Chance Gulch for all alternatives.

The project will provide for revegetation of the border strips disrupted by construction. Right-of-way taken and not used for roadway and existing right-of-way no longer needed will be contour graded, seeded and landscaped with trees and shrubs. In order for the project to be successful, aesthetics is an important factor. Retaining walls will be constructed to minimize right-of-way taking. The natural slopes of cut sections will be utilized in some reaches.

In order for the Highway Department to landscape the open space, as recommended, the local government would be required to assume the maintenance responsibility.

The new roadway will blend into the existing environment.

Project M5807(1) North Last Chance Gulch. Ecology of the area will not be effected by the improvement.

Project M5807(2) North Last Chance Gulch. Park impact is covered under "Historic/Cultural/Recreational Impacts". There will be disruption of the landscaped boulevard adjacent to the National Guard Armory, the Montana Power Facilities and a segment of land near Poplar Street. The project will arrange for relandscaping these areas. Other border strips that are disrupted by construction will be revegetated. New trees will be planted to take the place of the ones removed within the construction limits.

The visual impact caused by the 4.0 foot, more or less, raised grade for the traveling public should be minimal. The raised grade will have an adverse impact on the Montana Power Facilities. The existing architectural treatment of the elevated site will be nullified. If the alternate of the add two lane bridge structure is the ultimate choice, the present grade would be maintained. In either case, one existing approach will be eliminated.

The land west of the improved roadway, between the railroad structures, is undeveloped and the natural ground is approximately 12 feet below the existing grade. Access is and will be cumbersome and more of a problem if the roadway is raised.

FISH AND WILDLIFE IMPACTS

There are no creeks, streams, rivers or wetlands adjacent to or within the project area. The adjacent land is developed commercially except for some residents and public parks (see Land Use Figure 3-19 and aerial exhibits Figures 2-5 through 2-10). There are nowildlife and waterfowl areas in the public parks. It is not expected that the proposed projects will affect any fish and wildlife.

ARCHAEOLOGICAL AND GEOLOGIC IMPACTS

There are no known archaeological sites recorded in the project area. The Montana Department will have a section in the specifications requiring discontinuance of construction if an archaeological finding is encountered. The project will not effect any geologic resource.

PUBLIC FACILITIES AND SERVICE

Fire, police, and ambulance services will benefit by the project from improved access in and through the Central Business District and along North Last Chance Gulch. Conversely under the minor or no-action alternatives, traffic flow will be disrupted in the proportion to the diminished level of service provided as traffic volumes increase.

Access to churches will be benefited subject to improved traffic corridors as most churches are dependent on accessibility. The Community acceptance of diverting traffic next to and in front of the Cathedral of St. Helena subject to Alternate 2, Cruse Avenue Extension, is questionable. The Cathedral is one of the most beautiful churches in the world and is one of the high points of interest for tourists. The structure is listed in the National Register of

Historic Places. Traffic volumes of up to 11,000 vpd in front of the Cathedral will form a barrier for pedestrian traffic. St. Paul United Methodist Church, located on Lawrence Street just west of the Cathedral, would also be impacted by the increased traffic.

Access to Federal, State and City buildings and services will be improved. The interrelation of the activities of most government offices with the business activities of a community requires convenient vehicular access. The CBD should be served by an adequate system of routes leading to and from the outer reaches of the urban area.

Central School boundary, to the west, is Last Chance Gulch. At the present time there are no Central School students living in the area west of New Cruse Avenue between Sixth Avenue and Lawrence Street. There is one child living in the Placer Apartment building, south of Sixth Avenue. Children crossing Cruse Avenue will be principally by individuals that choose to enter the Central Business District for purposes not related to school functions. The safety of pedestrians, particularly children, will be increased by installing school signs, no parking areas and crosswalks. Vehicular traffic is projected to increase in this segment with or without the project.

The project will require relocation and/or adjustment of street lights, power, telephone, cable television poles, water valves, fire hydrants, manholes, etc. None of the above are considered major and disruption of service should be minimal.

RELOCATION IMPACTS

The building character in the Central Business District affected by Cruse Avenue Extension can be summarized as fairly old with a few buildings built after World War II. The newest building, a metal building at 427 North Jackson which houses a carpet store, was built in 1968. The oldest, the residence at 501 North Jackson, was built in 1875.

A few of the buildings have had a long, stable occupancy but many throughout their history have housed a number of different types of commercial establishments.

The actual number of businesses and residential units requiring relocation is variable depending upon the specific alignment of Cruse Avenue. There is no taking of structures or relocation north of Neill Avenue. Table 4-1 lists the various takings and relocations subject to a specific alternate.

The alignment of Cruse Avenue between 6th Avenue and Lawrence Street is the same for all alternates. This segment takes two buildings, one which is located at 315 Allen Street facing 6th Avenue, houses five (5) businesses. The other building is City owned and is leased to the School Administration.

Alternate 1 and 3 take the entire 500 Block between Placer Avenue and 11th Avenue. There are eight (8) businesses fronting on Last Chance Gulch. One business is the Dawn Hotel which has 1 apartment and 25 sleeping and/or housekeeping rooms. Approximately 60 percent of the occupancy is long-term and the remaining 40 percent is transient. Generally the clientele would be considered low income.

Table 4-1
RIGHT-OF-WAY

PROJECT ALTERNATE	PROPERTY TAKING (ACRES)	MARKET VALUE	COMMERCIAL BUILDINGS	RESIDENCE	BUSINESS DISPLACEMENT
Cruse Ave. M5815(1)		3*			
1	4.4	\$472,344	11	2	17
2 ^{1*}	5.7	\$212,962	7	2	10
3	3.9	\$382,777	9	0	15
4	4.1	\$212,962	5	3	9
Minor	0.14		-	-	-
No-Action	-		-	-	-
L.C.G. M5807(1)	-		-	-	-
L.C.G. M5807(2)	-		-	-	-
Build	1.7 ^{2*} 4*	\$ 9,550	-	-	-
No-Action	-		-	-	-

- 1* If improved connection to Lawrence Street at Warren Street is deleted remove: 2 commercial buildings, 2 businesses and 1.7 acres.
2* Add 0.2 acres if 14 foot median constructed entire length of project.
3* County Assessor. Does not include exempted public or church owned property.
4* Add two-lane bridges, reduce to 1.2 acres.
4* Add continuous median, increase to 1.9 acres.

The three residences involved are old structures built between 1875 and 1912 and are single family units.

Alternate 2 recommends the taking of the former St. Helena School which now serves as the program offices for several government departments and the Helena Catholic Center. These uses have been counted as two businesses. The St. Helena School is also involved in the determination of eligibility process.

The small number of household units that would be affected by the projects would not have a significant impact on neighborhoods in which they would relocate. There is an adequate housing supply to take care of the potential single family relocations.

The Dawn Hotel, with 26 rentable units, houses primarily low to moderate income persons. At the present time, there is not suitable replacement for this type of housing. The City of Helena is in the process of preparing an application for a Section 8 Rehabilitation Loan which could be used to upgrade existing units that would then be made available on a rent subsidy basis. A recent survey by the City of Helena indicates that there are 20 apartment houses in the area surrounding the downtown that might qualify for this program.

Alternate 1, which would require the relocation of 17 businesses and professional establishments, has the maximum impact of all routes. Some of the businesses may terminate operations rather than relocate. This would result in loss of employment; however, none of the affected businesses are a major employer within the overall Helena area labor market.

None of the establishments require special purpose buildings or large land areas. The Helena area is capable of accommodating the potential relocations in either vacant or new buildings.

All persons or businesses displaced by this project will be eligible for relocation assistance. Relocation payments would be provided for moving expenses, housing supplements when indicated and certain miscellaneous expense. Comparable replacement housing will be made available within the financial means of those displaced. The Department of Highways has an advisory relocation assistance program for individuals and businesses. This program is carried out by personal contact and includes providing information on current building and housing, rental or purchase prices and their availability, current interest rates, obtaining loans and other services. A major portion of the relocation program is that no project can be let to contract until all eligible displaced individuals, families or businesses have been relocated within their financial means. Displaced persons must be relocated into a decent, safe and sanitary dwelling, which means building suitable housing if necessary. This will be done in accordance with The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

SOCIAL IMPACTS

Access to jobs, schools, churches, shopping and community services within the Central City will be improved by the project. The reduction of delay time will increase the use of this corridor as access to other areas of the Community. The main beneficiary of the improved access will be the Central Business District. The completion of the loop system around the Central Business District and improved link to the valley will also be an asset for public transportation if needed subject to future energy conservation measures.

Also the improved accessibility will help to attract people to public recreational areas.

It is not expected that the project will have an impact on the social cohesion of any neighborhood that it passes through with the exception of Alternate 2 which increases traffic on residential streets in the Cathedral area.

No minority, special interest, illiterate, racial, ethnic, or religious groups will be affected by the projects. The relocation of low income persons is addressed under Relocation Impacts.

The safety of pedestrians will be increased with the installation of crosswalks, no parking areas, signs and new or improved traffic signals. Sidewalks with wheelchair ramps at all intersections will be constructed for the full length of the project. Well designed street lighting will be installed the entire length of the project. Lighting is particularly effective in reducing pedestrian accidents. Where border strips are sufficient, 8 foot sidewalk will be installed to accommodate both pedestrians and bicyclists. There is a designated school crossing at National Avenue and North Last Chance Gulch (North Main Street). The project will increase the pedestrian-vehicular conflicts due to 2 additional traffic lanes and an estimated traffic volume of 17,000 vpd. The proposed median will provide a pedestrian refuge.

ECONOMIC IMPACTS

Introduction. The economic impacts that will be caused by construction or non-construction of the proposed projects include the effects of the projects on employment and business activity, effects on residential activity, effects on property taxes, the compatibility of the project with regional and community goals and the effect of the project on energy, materials and labor resources.

Impact on Employment, Income and Business Activity. Project M5815(1), the Cruse Avenue Extension, has the most impact on existing business activity. From 6th Avenue to Lawrence Street the alignment is the same for all alternatives and requires the acquisition of two buildings. Beyond Lawrence Street all proposed alignments require the acquisition of the old State Liquor Store Building, which is now occupied by a retail carpet business. Alternate 1 requires the acquisition of all businesses on the east side of the 500 Block of Main Street and the optometrist and insurance offices on the south side of Helena Avenue at the intersection.

Alternate 3 requires the same business acquisition as Alternate 1 with the exception of the two businesses on the south side of Helena Avenue.

Alternates 2 and 4 have the least impact of the four Alternatives. Neither requires the acquisition of the 500 Block on the east side of Main Street.

A recent study by the Lewis and Clark Areawide Planning Organization entitled "Helena Downtown Development Study" shows that the total assessed valuation in the area extending from 6th Avenue to Lyndale and from Benton Avenue to Jackson is 22 million. Based on this, Alternates 1, 2, 3 and 4 would displace businesses making up 2.1, 1.0, 1.7 and 1.0 percent of the areas' assessed value, respectively. (See Table 4-1.)

Data from the Helena Urban Transportation Study shows a total 1978 employment of 60 persons on the east side of the 500 Block of Main Street. The businesses

on the southeast corner of Helena and Main Street currently have 12 employees. There are approximately 40 employees in the former St. Helena School building. Based on these figures the following numbers of employees would be displaced by the 4 alternates: Alternate 1 - 72 employees, Alternate 2 - 52 employees, Alternate 3 - 60 employees, and Alternate 4 - 12 employees.

Project M5815(1) will require acquisition of 27 public and 7 private parking spaces between 6th Avenue and Lawrence Street. Some spaces can be replaced in the area available when 7th Avenue is closed. Between Lawrence Street and 11th Avenue, approximately 100 private parking spaces will be acquired. Approximately 25 of these spaces can be replaced on land that will be acquired but not used for construction of the roadway. Approximately 44 of the spaces to be taken are used by businesses that would be displaced by Alternates 1 and 3.

National studies of business survival when small businesses are displaced by urban renewal or highway construction show that from 20 to 40 percent of businesses that were displaced were not reestablished. Based on an assumed nonsurvival rate of 30 percent, Alternate 1, 2, 3 and 4 of Project M5815(1) would result in the loss of 5, 3, 5 and 3 businesses respectively. The Highway Department will assist businesses to relocate subject to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

Projects M5807(1) and M5807(2) do not require the acquisition of business establishments. Some right-of-way is required but the only impact on an active business would be removal of part of a parking lot owned by Sharbono Construction.

The estimated economic impacts resulting from the expenditure of construction funds are shown in Table 4-2.

The proposed projects will not have a significant impact on the area agriculture. No agricultural land is acquired and the routes to be improved are not directly related to transportation of agricultural products. The completion of a direct access route to the downtown area will provide improved access to the "farmers market" which is located on the Last Chance Mall during the growing season. This market is a public distribution center for locally grown fruits and vegetables.

The overall plan for the Last Chance Renewal Project was based on the completion of a continuous access route around the C.B.D. The Areawide Planning Organization has compiled a list of improvements to existing businesses or new businesses that are being planned for the downtown area. These are shown in Table 4-3.

Table 4-2
ECONOMIC IMPACT FROM EXPENDITURE OF CONSTRUCTION FUNDS

<u>Project</u>	<u>Wages</u>	<u>Contractor Costs</u>	<u>Materials</u>
M5815(1)			
Alternate 1	\$200,000	\$280,000	\$332,000
Alternate 2	225,000	315,000	374,000
Alternate 3	194,000	272,000	323,000
Alternate 4	211,000	296,000	351,000
Minor	20,000	28,000	33,000
No-Action	-	-	-
M5807(1)			
Build	74,000	104,000	123,000
Minor	16,000	23,000	27,000
No-Action	-	-	-
M5807(2)			
Build	574,000	805,000	955,000
Minor	2,500	3,400	4,100
No-Action	-	-	-

¹Source: U.S. Department of Transportation, FHWA, Highway Statistics, 1973.

Table 4-3
PLANNED AND PROPOSED PROJECTS - HELENA DOWNTOWN AREA

<u>Business or Building</u>	<u>Project and Status</u>
Power Block Building	Rehabilitation (planned)
Lynn's Tavern	New Business (completed)
Capitol Transfer and Sands	
Brothers Building	Rehabilitation (completed)
Dunphy Block	Rehabilitation (in progress)
Cassidy - Grand Furniture	Rehabilitation (planned)
Placer and Main - HUD 312	Rehabilitation (planned)
Iron Front Buidling	Rehabilitation (planned)
M.E. Anderson Senior Citizen	
Apartments	Expansion (in progress)
Parchen Building	Rehabilitation (planned)
State Publishing Building	Rehabilitation (completed)
Montana Bank Drive-in	Expansion (in progress)
I.B.M.	New Construction (planned)
Travel - Lodge Motel	Expansion (planned)
Sheraton Hotel	New Construction (planned)
Atlas Block	Rehabilitation (planned)
State Liquor Store	Relocated (completed)

Although the completion of these projects may not be directly contingent on the completion of the C.B.D. access loop, the complete urban renewal plan has been reviewed by each developer and has been a factor in decisions concerning location subject to implementation of these projects.

Projects M5807(1) and M5807(2) serve a number of auto-oriented businesses. Improved access will probably result in a higher intensity of use along the corridor.

The Helene C.B.D. is a major historic attraction for tourists passing through or visiting the Helena area. Significant amounts of public and private funds have been spent to preserve and restore the historical character of the area. All three projects provide improved access between major routes carrying transient traffic through the area and the C.B.D.

Project M5807(2) provides improved access to the Cedar Street Interchange on I-15. I-15 is the major north-south route connecting Yellowstone and Glacier National Parks.

Project M5807(1) provides improved access between the downtown and U.S. 12 (Lyndale Avenue) the major east-west highway through the Helena area. This route provides a connecting link between Interstate Highway I-90 and I-15. Highways leading out of Helena connect to every major Montana city.

Project M5815(1) provides improved access into the downtown area as well as improved access to the State Capital and the Charles Russell Museum.

All alternate plans for Project M5815(1) call for the closure of 7th Street and the downgrading of the function of Jackson Street from Lawrence Street to 11th Avenue to a local access street. Project M5807(1) and M5807(2) would require increased access control along the route. Control of access will increase the traffic carrying and safety functions of the route.

Effect on Residential Activity. A number of residential units have been constructed around the perimeter of the C.B.D. since the initiation of the Lase Chance Urban Renewal Project. There are an estimated 200 dwelling units in the original urban renewal area. The Helena Urban Transportation Study Update estimates that in 1978 there were 610 dwelling units in the supra-zone covering the downtown area and projections for year 2000 are 850 units.

The proposed project would increase access to these residential units and may encourage additional improvements, rehabilitation and new construction of residential units. The character of the area would be conducive to the development of high density residential such as apartments and rooming houses. There is currently a shortage of these units in the Helena area.

The City of Helena has applied for federal funds to rehabilitate existing multi-family units to provide additional rent subsidy housing for low and moderate income households. A number of the units eligible for rehabilitation loans are located within the area impacted by the proposed projects.

Project M5815(1) is the only project that would require acquisition of residential units. Table 4-4 shows the number and type of residential units that will be displaced by each alternate.

Table 4-4
RESIDENTIAL DISPLACEMENT - PROJECT M5815(1)

<u>Project</u>	<u>Single-Family</u>	<u>Apartments</u>	<u>Sleeping/Housekeeping Rooms¹</u> <u>Occupied</u>	<u>Total</u>
M5815(1)				
Alternate 1	2	1	15	25
Alternate 2	2	-	-	-
Alternate 3	0	1	15	25
Alternate 4	3	-	-	-

¹All single-family and apartment units are occupied, occupancy of sleeping/housekeeping units is approximately 60 percent permanent and the remainder transient based on owners' estimate.

The Helena housing market is capable of providing the single-family replacement housing with very little impact on existing neighborhoods.

Replacement of units displaced by the acquisition of the Dawn Hotel would be difficult. The supply of apartment and sleeping/housekeeping units at rents affordable by low to moderate income households is limited. The Helena Housing Authority has a years waiting list for such units. No person will be displaced until suitable housing is available, which means building suitable housing if necessary.

Effect on Property Taxes. Project M5815(1), the Cruse Avenue Extension from 6th Avenue to Lawrence Street will require the relocation of one public building, the District 1 School Administration Building, which is owned by the City of Helena. Public funds will have to be expended to replace the offices now used by the School Administration.

From Lawrence Street to Neill Avenue, Project M5815(1) Alternate 1 and 3 will displace the offices occupied by Progress Incorporated, a non-profit corporation which provides services to rehabilitate developmentally disabled persons living in the Helena area.

Project M5807(1) and M5807(2) do not require acquisition of any public buildings, however, the widening of North Main from Lyndale to Montana Avenue will require the taking of some Park land. This impact is addressed in the "Historical/Cultural/Recreational Impacts" section of this report.

The following Table shows the 1979 taxes that were assessed on the parcels that would be required by Project M5815(1).

Table 4-5
1979 PROPERTY TAXES ON LAND AND IMPROVEMENTS
TO BE ACQUIRED BY PROJECT M5815(1)

<u>Alternate</u>	<u>1979 Taxes</u>
1	\$16,005
2	8,018
3	12,199
4	8,412

The planning process is based on the Comprehensive Plan developed and maintained by the Areawide Planning Organization of which the Helena Transportation Plan is an integral part.

The proposed Projects are being advanced as part of the community and regional planning effort. Project M5815(1) represents a commitment to continued redevelopment of the downtown area. It also commits a sizeable portion of the City's Urban System funds. The magnitude of this commitment, with respect to available funds for improvements to the overall transportation system, is evaluated in the funding section of this report.

Effect on Resources. The proposed Projects will result in the overall reduction in the use of energy resources over the project life. Energy expended in construction of the Projects will be balanced by energy savings due to improved traffic movements. (See Table 4-9.)

Construction materials and labor resources will not be depleted by construction of these Projects. The scale of the material and labor requirements is well within the capabilities of local suppliers and the local labor market. Road construction projects including all construction elements of the proposed Projects are carried out in the Helena area on a regular basis. No special considerations of the proposed Projects would create time delays due to local shortages.

Funding Sources. The 1980 Capital Improvement Program prepared by the City of Helena sets forth a 5 year transportation improvement program. The Areawide Planning Organization is presently in the process of updating the Helena Urban Transportation Plan and consequently all the highway and street projects have not been prioritized. The Capital Improvement Program lists the following funding sources for transportation facility improvements; Urban System funds, Primary Extension funds, Highway Safety funds, Rail-Highway Protection funds, Economic Growth Center funds, and Gas Tax funds. Other local sources could include Tax Increment funds, Special Improvement District funds and other local taxes.

Projects M5815(1), M5807(1) and M8507(2) are on the designated Urban System. The Cruse Avenue Extension and North Main from Neill Avenue to Lyndale Projects have been given top priority for urban system funding. Project M5807(2), North Main from Lyndale Avenue to Montana Avenue, has been given second priority for Urban System funding. At the present time, Helena has a carry-over of \$1,809,939 in Urban System funds. The annual accumulation of funds is \$405,000. Based on this rate, the Cruse Avenue Extension would require an accumulation of 8 years, North Main, Neill Avenue to Lyndale could be paid for in 1 year and North Main, Lyndale to Montana would require an accumulation of approximately 8 years of Urban System funds.

Although Project M5807(2) crosses the railroad, Rail-Highway Protection funds would probably not be used on the Project. The State receives a total of 2.3 million per year and has targeted this program primarily for improvement of at-grade crossings.

An alternate source of funds that should be considered, primarily for the Cruse Avenue Extension, is through the formation of a special improvement district. This Project is particularly beneficial to the C.B.D. Property owners in the area may be willing to participate directly in paying a portion of the cost of

this Project. The City is in the process of forming a tax increment financing district in the area bounded by Jackson Street and Benton Avenue and 6th Street and Lyndale Avenue. Cruse Avenue Extension would be an eligible improvement for financing by this method since it benefits this area.

Gas tax revenue is used primarily for maintenance, operation, repair and reconstruction of streets. It is not anticipated that this will be a funding source for major construction projects, however, the funds could be used for the minor improvement alternatives.

Table 4-6 summarizes the annual revenue from the various funding sources.

Table 4-6
ANNUAL TRANSPORTATION IMPROVEMENT FUNDS (1000's OF DOLLARS)

<u>Funding Type</u>	<u>Carry-Over</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>Total</u>
Urban System ¹	1803	405	405	405	405	405	3828
Primary Extension ²	5144	1375	1128	1293	1293	1293	11526
Safety Funds ³	3505	2285	2285	2285	2285	2285	14929
Economic Growth ¹							
Center	-	179	179	179	179	179	894
Gas Tax ¹	-	204	204	204	204	204	1020

¹Includes Helena share only.

²Includes all of District 7.

³Statewide Totals.

AIR QUALITY

Air Quality Impact Methodology. The method used in the air quality analysis was to utilize local meteorological data (National Weather Service), area topography and street networks, and present and projected traffic volumes in conjunction with a mathematical model called HIWAY to simulate CO concentrations for the worst case conditions. These worst case conditions are the combined meteorological and traffic conditions that would result in the highest predicted CO concentrations. If under these conditions no violation of the CO standards are predicted to occur, then the remainder of the possible conditions will not violate the CO standards either.

Emission rates were determined based on AP-42, Compilation of Air Pollutant Emission Factors - EPA. The data indicates that:

- The federal primary total suspended particulate standard of 260 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) (24-hour maximum) and 75 $\mu\text{g}/\text{m}^3$ (annual geometric mean) should not be exceeded by the proposed development. New Montana total suspended particulate standard of 200 $\mu\text{g}/\text{m}^3$ (24-hour maximum) and 75 $\mu\text{g}/\text{m}^3$ (annual average) should not be exceeded.
- The new Montana standard for carbon monoxide of 23 parts per million (ppm) (hourly average) and 9 ppm (eight hour average) should not be exceeded by the proposed development.
- The increased level of ADT due to the proposed development will have an effect of increased levels of traffic-generated total suspended particulate matter. However, the effect will be offset by the use of street curb and gutter on the Lyndale to Montana Avenue section.

Discussions were held with the Montana Department of Health and Environmental Sciences Air Quality Bureau (AQB) concerning this Project. Their comments were that no substantial air quality impacts are expected to occur as a result of the improvements planned. These comments were in lieu of any formal air quality modeling which might contradict the above conclusion. See Appendix C for the Department's letter. The proposed projects will be in conformance with the Montana State adopted plans for achieving and maintaining national air quality standards (State Implementation Plans). Also, secondary factors such as length of time to complete construction, phasing of construction, method of construction, and traffic control techniques might present air quality problems.

The complete Air Quality Report including the modeling and computer printout is available for review at the Preconstruction Bureau, Montana Department of Highways, Koehnlein Lightowler Johnson, Inc., 4509 North Star Boulevard, Great Falls, Montana; Northern Testing Laboratories, 528 Smelter Avenue, Great Falls, Montana.

Table 4-7
CO CONCENTRATIONS, PPM*

	<u>Maximum 1-hour</u>	<u>Maximum 8-Hour</u>
<u>Lyndale & Last Chance Gulch:</u>		
1979	2.04	1.35
1990) Build	1.02	0.67
2000)	0.07	0.05
1990) No-Build	1.02	0.67
2000)	0.07	0.05
<u>Montana & Cedar:</u>		
1979	0.76	0.50
1990) Build	0.38	0.25
2000)	0.03	0.02
1990) No-Build	0.38	0.25
2000)	0.03	0.02
<u>11th, Cruse & Last Chance Gulch:</u>		
1979	0.86	0.57
1990) Build	0.60	0.40
2000)	0.04	0.03
1990) No-Build	0.56	0.37
2000)	0.04	0.03
Montana Standard	23.00	9.00
National Standard	35.00	9.00
*Parts Per Million.		

The large difference between the 1979 and 2000 CO concentrations is due to relatively small traffic volume increase and the stricter emission standards for automobile emission beginning in 1984.

Engineering intuition and experience indicate that there will be some slight deviation from these predicted values.

NOISE IMPACTS

Introduction. This study covers three technical areas: (1) baseline measurements of ambient noise at selected locations along the route of proposed improvement, (2) predicted ambient traffic-related noise levels for the years 1990 and 2000 for the proposed improvements and for the no-action alternates and (3) evaluation of the probable environmental impact of the proposed improvements and for the no-action alternates.

Evaluation Guidelines and Standards. It is necessary to evaluate the impacts of the predicted noise since a considerable portion of the project is, or borders, residential area. Criteria used to evaluate this impact was the FHWA Noise Control Standard.

Maximum permissible L_{eq} noise for land use and traffic conditions are imposed by the FHWA Noise Control Standard (23 CFR, Part 772). The residential areas are subject to activity category B, with a design noise level of L_{eq} of 67. The bandshell area in Memorial Park is subject to activity category A, with a design noise level of L_{eq} of 57. A small increase in the background noise level (approximately 5 dB) is normally tolerated by most people, especially if the buildup is gradual. Larger increases usually result in complaints, especially if sleep or speech are interrupted. Doubling of the judged loudness to 10 dB is regarded as serious. The impact criteria are summarized below:

<u>Increase</u>	<u>Impact</u>
Up to 5 dB	Minimum
5 to 10 dB	Significant
More than 10 dB	Serious

Noise Level Predictions. Traffic-generated noise levels were predicted based on traffic shown on Figure 1-3. These calculations followed the procedures outlined in FHWA-RD-77-108.

The result of these predictions are tabulated under "Noise Impact Predictions", Table 4-8.

To assure that reasonable agreement exists between the predictions of the FHWA model and the observed noise levels, calculations were made for two locations which had fairly constant speed traffic along a straight and unobstructed roadway.

The prediction for Last Chance Gulch at Neill was $L_{eq} = 68.8$ dBA. The observations for this point, adjusted to peak periods, were 66.0 dBA and 69.8 dBA. The predictions for Memorial Park gave a value of $L_{eq} = 62.7$ dBA. The adjusted observed value was 62.3 dBA.

For residential areas, noise is normally assumed to decrease 4.5 dBA for each doubling of distance from a long straight highway source. In these predictions the reference distance was the standard 15 meters (49.2 feet). Thus homes set back 100 feet from a traffic lane would be expected to have L_{eq} 4.5 dBA, lower than the values stated in Table 4-8. However, depending on observer location, height, vegetation, and season (winter snow provides a smooth non-absorptive surface), the drop off rate may only be 3 dBA.

Evaluation. As can be seen from Table 4-8, no large increase in noise level is predicted for any of the project segments examined, with 2.2 dBA being the largest increase. (Last Chance Gulch - Villard to Montana, from 68.9 to 71.1 dBA.) Note that this same increase is predicted for either build or no-action alternates.

The bandshell area in Memorial Park is approximately 350 feet east of the proposed centerline. Assuming a decrease of 4.5 dBA for each doubling of distance, the noise level for the area will be 60 dBA. This is representative of the "noisiest" hour expected to occur for a typical day. The peak traffic will occur between 4:30 and 5:30 p.m. during the work week. Activities associated with the bandshell, usually Sundays or early evenings, will not coincide with the design hour.

In the case where build and no-action differences can be shown, Cruse Drive Extension (M5815), it is calculated that the traffic-generated noise at Central School will rise from 44.3 to 47.8 dBA as a result of the build alternate. However, this level is far below the present ambient L_{eq} of 53.3 dBA. Using impact criteria of 5 dB increase as "minimum", it would appear that at most, the additional traffic-generated noise caused by Project M5815 and M5807 would have minimal environmental impact.

The complete report subject to details of instrumentation, procedures, prediction and calculation is available for review at the Preconstruction Bureau, Montana Department of Highways; Koehnlein Lightowler Johnson, Inc., 4509 North Star Boulevard, Great Falls, Montana; and Northern Testing Laboratories, 528 Smelter Avenue, Great Falls, Montana.

Table 4-8
NOISE IMPACT PREDICTIONS

<u>Project Segment</u>	<u>Now</u>	<u>No-Build</u>		<u>Build</u>	
		1990	2000	1980	1990
		dBA			
(3) <u>M5807(1)</u>					
Last Chance Gulch - Neill to Lyndale	63.8	+0.3	+0.9	+0.3	+0.9
Neill - West of Last Chance Gulch	65.3	-1.5	-1.2	-1.5	-1.2
Helena - East of Last Chance Gulch	63.3	-0.5	-0.2	-0.5	-0.2
Lyndale - West of Last Chance Gulch	71.1	+0.7	+1.3	+0.7	+1.3
Lyndale - East of Last Chance Gulch	69.8	+0.8	+1.3	+0.8	+1.3
(4) <u>M5807(2)</u>					
Last Chance Gulch - Lyndale to Villard	69.9	+1.1	+1.6	+1.1	+1.6
Last Chance Gulch - Villard to Montana	68.9	+1.6	+2.2	+1.6	+2.2
Villard - North of Last Chance Gulch					
Montana - North of Last Chance Gulch	70.2	+0.8	+1.2	+0.8	+1.2
Montana - South of Last Chance Gulch	69.7	-1.2	-0.8	-1.2	-0.8
Cedar Street - East of Montana	69.3	+1.0	+1.7	+1.0	+1.7
(3) <u>M5815</u>					
Cruse - 6th to Lawrence	(1)	(1)	(1)	55.8	(2)
Cruse - Lawrence to Neill	(1)	(1)	(1)	56.8	(2)
Cruse - South of 6th	(2)	61.7	+0.9	61.7	+0.9
6th - West of Cruse	(2)	57.7	+0.5	57.7	+0.5
6th - East of Cruse	(2)	61.2	+0.5	61.2	+0.5
Lawrence - West of Jackson	(2)	60.1	+0.6	60.1	+0.6
Lawrence - East of Jackson	(2)	57.7	+0.5	57.7	+0.5
Jackson - North of 6th	54.8	-0.8	-0.3	-0.8	-0.3
Central School - at west wall line	(2)	44.3	+0.5	47.8	(2)
Notes:	(1) Does not exist for "no-build" alternate.				
	(2) No ADT data available.				
	(3) Calculations based on 15 meter distance to centerline.				
	(4) Calculations based on 20 meter distance to centerline.				

WATER QUALITY

The project corridor is served by an existing City storm water trunk system along the low point of the Gulch just west of Last Chance Gulch. There are laterals to this system on 6th Avenue and Neill Avenue which would be modified and extended for placement of new inlets. The storm runoff at Lawrence Street will be directed west to existing inlets at the intersection of Last Chance Gulch. There will be an increase in runoff coefficient because of the New Cruse Avenue. The additional pavement area is approximately 1.73 acres. There are no known deficiencies in the existing City trunk system within the Central Business District.

Between Neill and Lyndale Avenue the existing street width and grades will not change and all surface runoff will be directed west to Front Street. There are laterals at 13th Street and Lyndale which will be utilized.

Between Lyndale Avenue and Chestnut Street the build alternate recommends a closed storm sewer system be installed at the entrance to Bausch Park and at the south approach to the north railroad overpass. The new systems are required because the curb and gutter will concentrate the runoff in these locations and there would be a problem without a collection system. The two new laterals would connect to the existing City of Helena's trunk system about 900 feet west of Last Chance Gulch. From Chestnut Street to Montana Avenue along North Last Chance Gulch (North Main Street) the runoff will be directed north and east along existing surface drainage patterns. The additional pavement area plus sidewalk for M5807(2) is approximately 5.1 acres. Letters addressing the coordination with the Department of Health and Environmental Sciences are in the Appendix.

ENERGY RESOURCES

Energy consumption is an irreversible and irretrievable commitment of resources and is involved in the proposed action. Transportation facilities result in the direct consumption of energy by vehicle use and indirect energy use in building and operating a transportation system.

Procedures for evaluation, calculation and reporting of energy use were taken from the handbook "Energy Requirements for Transportation System" prepared by E. Shirley and J. Apostolos for a Highway Administration workshop in 1979.

The commonly used unit of energy, the BTU, was used for the technical calculations which were converted to "equivalent barrels of crude oil". The traffic volumes used were for the year 2000 with 1 percent trucks for M5815(1), 2.5 percent for M5807(1) and 4.5 percent for M5807(2). Adjustment for change in future fuel economy was considered in the calculations for cars.

The indirect energy consumption related to vehicles is the energy required to manufacture and maintain them based on a useful life of 100,000 miles. This was converted to BTU per mile. The indirect energy use for construction includes the energy required to build the roadway, structures, landscaping and all incidental items for a complete new roadway converted to BTU. The amount of energy used is based on cost. The method used is reasonably accurate using preliminary cost estimates. Indirect energy consumption for additional maintenance for the New Cruse Avenue and two additional lanes north of Lyndale Avenue was calculated. The existing network maintenance was not calculated as this energy will be used with or without the project. The four build alternates for Cruse Avenue vary only slightly from each other in overall energy consumption.

The projected energy consumption for the three projects by source is presented in Table 4-9. The no-action for Cruse Avenue and the build alternate for North Last Chance Gulch between Neill and Lyndale Avenue result in the least total energy consumption. At the current state-of-the-art the small difference between the energy consumption values indicates that both alternatives are essentially equal.

Project M5807(1) North Last Chance Gulch between Lyndale and Montana Avenue shows that the build alternate is more energy efficient. This is a result of increased congestion on the existing two-lane roadway which would cause slow speeds, frequent stops and speed changes.

The anticipated impact of the various build alternatives on energy consumption is offset by the energy required to sustain the existing network.

The existing corridor is an important link to the C.B.D. and will continue to serve as the principle traffic carrier with or without improvement. In general, the energy consumption analysis shows that energy used under congested conditions due to the no-build option, will outweigh the energy required to construct and maintain the proposed improvements.

Table 4-9
ENERGY CONSUMPTION BY SOURCE

<u>Description</u>	<u>Equivalent Annual Consumption BTU/yr</u>	
	<u>Construction</u>	<u>Alternative No-Action</u>
M5815(1)		
Direct: vehicle fuels	5.31×10^9	5.46×10^9
Indirect: vehicle	2.82×10^9	2.90×10^9
Indirect: construction	7.82×10^8	0
Indirect: maintenance	1.44×10^8	0
Total Energy	9.06×10^9	8.36×10^9
Barrels of oil/day	4.3	4.0
M5807(1)		
Direct: vehicle fuels	11.28×10^9	11.98×10^9
Indirect: vehicle	6.80×10^9	7.01×10^9
Indirect: construction	4.14×10^8	0
Indirect: maintenance	0	0
Total Energy	18.49×10^9	18.99×10^9
Barrels of oil/day	8.7	9.0
M5807(2)		
Direct: vehicle fuels	2.88×10^{10}	3.58×10^{10}
Indirect: vehicle	2.43×10^{10}	2.72×10^{10}
Indirect: construction	1.67×10^9	0
Indirect: maintenance	2.04×10^8	0
Total Energy	5.50×10^{10}	6.60×10^{10}
Barrels of oil/day	26.0	31.2
Note: Maintenance based on additional lane miles		
Barrels (bbl) of oil = BTUs/ 5.8×10^6		

CONSTRUCTION IMPACTS

Detours. Traffic will be disrupted but maintained through the corridor during construction. Cross streets will be closed but not two in a row. Access to buildings fronting the construction will be limited to cross streets and rear entrances. The adjacent street network will be required to carry the spill-over traffic. This impact will be minimized by proper construction phasing. From Lyndale to Montana Avenue the project will be built half at a time maintaining two-lane, two-way traffic. A portion of the through traffic that now uses this route will not accept the congestion and will avoid the area.

Utilities. During or before construction begins, all conflicting utilities will have to be relocated. Power and telephone lines will be principally involved along with adjustment to fire hydrants, valve boxes and manholes. There may be some disruption of the systems; however, these disruptions will be short-term.

Air Quality. Construction activities are expected to have an impact on the air quality but will only be temporary. Particulate emissions will result from excavation, moving of soil and wind erosion on exposed surfaces. Gaseous emissions will occur from machinery and support vehicles working on the project. Even though the construction impacts on air quality are unavoidable, various steps will be taken to reduce the impact. These measures include but are not limited to, the use of water spray trucks, revegetation of exposed areas, and vehicle speed restrictions.

Noise. Construction noise levels shall be kept to a level permissible by the City of Helena Code, Chapter 12. The Code states from 6:00 a.m. to 11:00 p.m. the maximum permissible noise level shall be 80 dBA and if any work is necessary during off hours the level shall not exceed 75 dBA. No variance to these levels is allowed without written permission from the City Manager.

Water Quality. The Montana Department of Highways has a section in the standard specifications title "Erosion, Water Pollution - Siltation Control". This section requires the Contractor to exercise every reasonable precaution to prevent and control water pollution and siltation within the limits of the Project and to minimize damage to the work and to adjacent property and streams of other bodies of water. The contract shall meet requirements and regulations of the Department of Fish and Game, Department of Health and Environmental Sciences and other State or Federal regulations applicable to the prevention or abatement of water pollution and siltation. The Contractor's specific attention is directed to the Montana Water Pollution Control Act and the Montana Stream Preservation Act.

CHAPTER 5 - COMMENTS AND COORDINATION

COORDINATION

The initial effort in March of 1980 was to notify the Office of Environmental Policy, Environmental Review Branch, Washington, D.C., that the Federal Highway Administration was proceeding with an action that would be the subject of an E.I.S. This "Notice of Intent" described the proposed action and possible alternatives to accomplish goals of the action.

A Scoping Meeting was held March 17, 1980. Informational copies of the description of the proposed action were sent to interested agencies. At the meeting it was recommended that a Project Steering Committee be formed to review project planning and environmental assessment efforts.

The Steering Committee Members were composed of representatives from the City of Helena, Areawide Planning Office, Federal Highway Administration (FHWA), Montana Department of Highways, Chamber of Commerce, Downtown Business and the Helena Citizen Committee. The Committee was the primary coordinating body which reviewed proposed alternates subject to traffic, right-of-way, and environmental impacts. Five sessions have been held to date to evaluate the progress on the project plans and environmental assessment. The Committee has concurred with the viable alternates addressed in this document.

The Steering Committee Meetings were not publicized but the intent was that each member would contact and discuss the project status with agencies that they were representing and any information needed was made available to any interested party. Mr. Mulcahy, City of Helena Park Director, sat in on one of the Meetings and participated in the discussion of the four-lane facility adjacent to Memorial Park. Representatives from the State Historical Society participated in the discussion of removing or altering the setting of buildings that are eligible or potentially eligible to be listed in the National Historic Register and the construction of a new roadway within the Helena Historic District.

The City of Helena's Director of Public Service and Areawide Planning Director were consulted. They provided valuable input regarding preliminary design and impact considerations. Other solicited input from Federal, State and local agencies have been referenced or made part of this document under the appropriate sections.

PUBLIC INVOLVEMENT

On two occasions the Montana Highway Department advertised and held Public Information Meetings; one daytime and one nighttime meeting was scheduled to facilitate attendance. The notice requested persons interested in or affected by the proposed projects to attend. The first Meeting was held August 20, 1980, at the City-County Building in Helena in the evening with about 75 people attending. One alternate presented was the closure of Helena Avenue at Last Chance Gulch. This alternate received a great deal of oral protest and several written objections. Detailed traffic analysis of this alternate, made possible by additional traffic data from the Transportation Plan Update, indicated that a large volume of traffic would be routed out of direction and congestion at the Neill - Main intersection would actually increase with the closure of Helena Avenue. Based on the traffic analysis and the lack of community support, this alternate was dropped from further consideration.

The second Meeting was held September 17, 1980, at the Department of Highways Auditorium in the afternoon with about 50 people attending. At both Meetings, participation was received from citizens with primary concerns being the relocation of business. Participants at the meeting asked for more detail on the Cruse Avenue Alternates and more specific information on alignment and buildings effected. Preliminary construction costs were presented.

There were no comments received on Project M5807(2). Comments on M5807(1) were with regard to the retention of parking and the width of the sidewalk. The majority of favorable comments from the public supported the need for Cruse Avenue Extension and the alternate or alternates that would have the minimum impact on business relocation. There were some negative comments concerning the justification of spending funds on this section.

Alternate 4 in this document was not presented at the two Public Informational Meetings. This Alternate had been considered by the Steering Committee from the beginning but because of steep grades and the closeness of the two inter-sections it had some apparent disadvantages. The need for an alternate that required less building acquisition and fewer business displacements was apparent after the Public Hearing. The Steering Committee requested this Alternate be reconsidered.

The Consultant made a presentation before the Traffic Committee of the Helena Chamber of Commerce on May 8. The Cruse Avenue project corridor was described and a number of different alignments that were under consideration at that time were presented. A project update was presented to the Helena City Commission at a work session, July 4. On October 18, the Consultant met with the Policy Coordinating Committee and presented the alternates that were to be addressed in the Draft E.I.S. Project costs were presented and discussed. The Helena Improvement Society published a newsletter describing each of the Alternates for members and general circulation to interested persons.

In 1977 there were informational public meetings on Cruse Avenue Extension which presented three alternates established by a local consultant firm. The public did express opposition to the alignments. Individuals stated that the alternates did not serve the best interest of the area. Helena's City Engineer, under contract with the Highway Department in 1978/1979, also developed alternatives to Cruse Avenue. The City staff members presented numerous alternates to the City Commission in January 1979. At that time the City Commissioners took no action after the presentation. The City Engineer's alternates were part of the present review.

In November 1977, the Road Design Section of the Highway Department held an Informal Public Meeting subject to the improvements of Project M5807(1) - North Last Chance Gulch from Neill Avenue to Lyndale Avenue. Four build alternates were presented. The traffic forecast was greater than what is now projected. The alternates required the removal of parking which was the principal matter of public concern.

PUBLIC HEARING AND COMMENTS

A Public Hearing following circulation of this Draft E.I.S. will be held to afford individuals and public and private agencies an opportunity to comment on the content of the E.I.S. At this time a recapitulation of the important

findings of the planning study and the significant impacts identified in the Draft E.I.S. will be given. Written and oral testimony will be received regarding the Draft E.I.S. The date and location of the Public Hearing will be advertised in the local news media in Helena.

Written comments submitted prior to or following the Public Hearing should be sent to:

Mr. Steven Kologi, Chief
Preconstruction Bureau
Montana Department of Highways
Helena, Montana 59601

Comments on the Draft E.I.S. are due by _____, 1981.

CHAPTER 6 - LIST OF PREPARERS

The State of Montana, acting through the Department of Highways, has the responsibility to manage the preparation of the draft and final environmental impact statement. Due to the magnitude of this project, consultants were retained to provide preliminary design and make environmental studies of specific impacts. These studies provided the background technical data necessary to assess and to determine the environmental impacts of a proposed action. The consultant has the responsibility of preparing this statement and coordination with the State Highway Department and other agencies. The responsibility for formulating all conclusions and determinations involved in the environmental decisions remains with the Highway Department.

The prime consultant is Koehnlein Lightowler Johnson, Inc., Engineers, Architects, and Planners, whose principal office is located in Fargo, North Dakota, with a branch office at Great Falls, Montana. Koehnlein Lightowler Johnson, Inc., retained the service of several other consulting firms to provide support expertise in various segments of the impact assessment. Northern Testing Laboratories, a multi-disciplinary consulting firm located in Great Falls, Montana, provided data on general physiography, climate, geology, and conducted the assessment of air quality impacts, noise impacts and water quality impacts. Their responsibility also included new pavement design and evaluation of pavement life expectancy of the present traveled ways. Historical Research Associates, a consulting firm located in Missoula, Montana, was responsible for assessing the significance of and determining highway construction impact upon historic cultural resources. Historical Research Associates consulting historical architect was responsible for assessing the significance of and determining the highway construction impact on historic structures in the project area.

The Montana Department of Highways furnished right-of-way and relocation cost estimates, narrative right-of-way and relocation reports, utility cost estimates and railroad problems that have an effect on the project. The Department provided all traffic data and traffic projections.

A listing of the principal individuals involved in preparation of this statement follows. The project Steering Committee Members are also listed including the agency or group they represent.

FEDERAL HIGHWAY ADMINISTRATION

William Dunbar, P.E., Environmental and Design Engineer
H.J. Ollila, P.E., Environmental Engineer

MONTANA DEPARTMENT OF HIGHWAYS

Gordon Larson, Supervisor, Consultant Design Section
James Hahn, Chief, Planning and Research Bureau
Norman H. Rognlie, Chief, Bridge Bureau
Ms. Kathy Huppe, Anthropologist
Leonard C. Olson, Right-of-way Agent
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KOEHNLEIN LIGHTOWLER JOHNSON, INC., CONSULTING ENGINEERS

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John R. Kelly, P.E., Project Manager, Designer

Clete Daily, P.E., Traffic Engineer & Transportation Planner

Gary Shick, E.I.T., Designer

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Robert A. Gillespie, P.E., Project Coordinator

Kenneth D. Munski, P.E., Project Engineer

Abigail Sullivan, Staff Engineer

Jim Gelhaus, Air Quality Impact Specialist

J.L. Knox, P.E., Noise Impact Specialist

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Christine Amos, Historian

James R. McDonald, P.A., Architect

Kirk Michaels, Graduate Architect

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Lee Berger, Chamber of Commerce

Gus Byrom, III, Areawide Planning Director

Vern Cougill, Downtown Business

Michael Kaiser, Public Works Department

Gordon Larson, Montana Department of Highways

Harold Ollila, Federal Highway Administration

Phil Porrini, Helena Citizen Committee

Ken Rapp, Montana Department of Highways

Qualifications of the persons who were primarily responsible for preparing the statement:

Koehnlein Lightowler Johnson, Inc.

John R. Kelly. Project Manager, Highway Designer, Writer and Editor. Represented and coordinated project with Department of Highways, City of Helena, Areawide Planning Office, Steering Committee, public hearings and group meetings. He has 16 years experience in highway design (rural and urban) and was City Engineer, Great Falls, Montana, for 5 years. Mr. Kelly was Project Manager for Final Environmental Impact Statement for Sixth Street Southwest, Great Falls, Montana, in 1978. He has a Bachelor of Science in Civil Engineering from Gonzaga University and is a registered professional engineer in Montana.

Clete Daily. Mr. Daily was responsible for traffic analysis, benefit/cost analysis and portions of the socio-economic analysis. He is a registered professional engineer and certified planner-in-charge in Montana. Mr. Daily has 16 years experience specializing in traffic engineering and transportation and general planning.

Northern Testing Laboratories

Subconsultant responsible for: 1) physiography, climate and geology, 2) air quality impacts, 3) noise impacts, 4) water quality impacts, 5) life expectancy of present roadways and new pavement design.

Dennis A. Williams. Mr. Williams was responsible for technical consultation on geology and pavements. He has 20 years experience in geology, materials engineering and construction engineering. He has a Bachelor of Science in Geological Engineering from Montana College of Mineral Science and Technology and is a registered professional engineer in Montana.

Robert W. Gillespie. Mr. Gillespie functioned as project coordinator and was responsible for review and direction of all aspects of the work. He has a BSCE (structures) and a MSCE (soil mechanics) with 8 years of experience. He is a registered professional engineer in six states including Montana.

Kenneth D. Munki. Mr. Munki was responsible for evaluation of existing pavement sections and development of pavement overlays and new sections. He has a BS and MS in Civil Engineering from Montana State University and five years experience in materials engineering. Mr. Munki is a registered professional engineer in Montana.

William Henning. Mr. Henning was responsible for direction of subsurface field investigations, geology, and physiography. He has a BA in geology from the University of Montana and is a registered geologist in Idaho. His experience over the past six years includes numerous projects involving geologic and physiographic features.

J.L. Knox. Mr. Knox performed the noise monitoring and provided analyses of the potential impacts. He is a registered professional engineer, a professor at Montana State University and has been involved in numerous projects of this type.

James Gelhaus. Mr. Gelhaus was responsible for evaluating and analyzing air quality impacts, including the use of air quality models. He has been an air quality meteorologist and supervisor of technical services for the Montana Department of Health and Environmental Sciences. He has also served as a research meteorologist for Montana State University.

Historical Research Associates' and James R. McDonald, Architect

Subconsultant responsible for cultural resources inventory.

William A. Babcock. Historian, Historical Research Associates', Missoula Montana. Mr. Babcock was responsible for conducting the historical inventory of the structures in the project area, assessing their significance and the impact of the project on them, and writing the historical background section of the report. Mr. Babcock has BA and MA degrees in history and is a doctoral candidate in history. He has worked on several cultural resource inventories for highway projects in the State of Montana and is familiar with State and federal legislation affecting the management of cultural resources.

James R. McDonald. Architect, Missoula, Montana. Mr. McDonald was responsible for conducting the architectural inventory of the structures in the area, assessing their significance, and writing the mitigation report. He has a Bachelor of Architecture and Master of Science degree in Historic Preservation. He has worked on numerous cultural resource inventories in highway projects in the State of Montana and is familiar with State and federal legislation affecting the management of cultural resources.

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APPENDIX "B"
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- 1) Highway Capacity Manual, 1965, Highway Research Board Report 87.
- 2) Helena Urban Transportation Study, Montana Department of Highways, 1970.
- 3) A Report on the Development of a South Roadway Concept in the City of Helena, November 1977, Lewis and Clark Areawide Planning Organization.
- 4) Link Use Analysis Printout, Montana Department of Highways.
- 5) A Manual on User Benefit Analysis of Highway and Bus - Transit Improvements, 1977, American Association of State Highway and Transportation Officials.
- 6) White House Memorandum to The Secretary of Transportation, August 2, 1979.
- 7) Present and Project Economic/Demographic Impacts upon Helena Area 1970 - 2000; Prepared by T.A.P., Inc., of Bozeman, Montana; April 1, 1978.
- 8) U.S. Department of Transportation, FHWA, Highway Statistics, 1973.
- 9) City of Helena 1980 "Master Drainage Plan".
- 10) Manual on "Energy Requirements for Transportation Systems" 1979 by E.C. Shirley & J.A. Apostolo, Sr.
- 11) 1970 "Helena Urban Transportation Study".
- 12) 1980 "Downtown Development Study".
- 13) 1969 "Urban Renewal Plan".
- 14) Environmental Protection Agency "Helena Valley, Montana Area Environmental Pollution Study"; January 1972.

APPENDIX C

LETTERS OF COORDINATION



MONTANA HISTORICAL SOCIETY

HISTORIC PRESERVATION OFFICE

225 NORTH ROBERTS STREET • (406) 449-4584 • HELENA, MONTANA 59601

August 4, 1980

Bill Babcock
Historical Research Associates
Box 7086
Missoula, MT 59801

Dear Bill:

In response to your request for information on sites listed or determined eligible for listing in the National Register of Historic Places in the Cruse Street project area, please see the list below:

Cathedral of St. Helena, 530 N. Ewing St, Helena.
The cathedral of St. Helena built between 1908 and 1914 is a significant architectural achievement and is the setting for what may be one of the world's greatest collections of art-glass. It's building stands as a testament to the generosity and aspirations of a group of men prominent in the early history of Montana. The cathedral was listed on the National Register on April 30, 1980.

Helena Historic District boundaries also extned through the project area. Our office has supplied your office with a copy of the district nomination which describes the specific buildings within the impacted area. The Helena Historic District was listed on the National Register June 2, 1972.

Thank you for the opportunity to comment.

Sincerely,

Pat Bick

PB/det



MONTANA HISTORICAL SOCIETY

225 NORTH ROBERTS STREET • (406) 449- 4584 • HELENA, MONTANA 59601

September 18, 1980

Bill Dunbar, P.E.
Federal Highway Administration
Federal Building
301 South Park
Helena, MT 59601

Re: M 5815 (1)
M 5807 (1) & (2)
Helena, Cruse Avenue

Dear Bill:

As I discussed with you today, after having our new Heritage Conservation and Recreation Service assistant director in Denver look with us at the 500 Block of North Last Chance Gulch, and after talking with others at Historical Research Associates, we do not recommend that you seek a determination of eligibility on that block.

Based on other conversations with National Register personnel, we do think it appropriate for you to seek a determination on the St. Helena School by the Cathedral. The Register is apparently willing to consider buildings with additions of some size as long as the original structure can be perceived independently.

Feel free to call if you have questions.

Sincerely,

Marcella Sherfy
Marcella Sherfy
Deputy SHPO

MS/det

cc: John Kelly, Project Engineer
Koehnlein, Lighttower, Johnson
4509 North Star Boulevard
P.O. Box 6039
Great Falls, MT 59406

Gordon Larsan
Department of Highways
Preconstruction Bureau



MONTANA HISTORICAL SOCIETY

225 NORTH ROBERTS STREET • (406) 449-4584 • HELENA, MONTANA 59601

October 10, 1980

Mr. John R. Kelly,
Project Engineer
Koehnlein, Lightowler, Johnson, Inc.
P.O. Box 6039
Great Falls, MT 59406

Re: M 5815(1)
M5 807 (1)&(2)
Helena, MT
Cruse Avenue

Dear Mr. Kelly:

We have rechecked the information submitted by Historical Research associates and our own files against the apparent impacts of the projects identified above. We continue to find that the majority of properties whose primary significant qualities will be affected by the avenue alternatives fall within the existing Helena Historic District and by virtue of age and either architecture or historical association are contributing elements to that district. Hence, an official determination of eligibility does not need to be sought on those structures.

The only structures lying outside the district that appear likely to be impacted and appear to be significant enough to warrant seeking a determination of eligibility are the St. Helena School and the Montana Powder & Equipment Company. Based on HRA's inventory forms, we originally believed the latter building to fall within the district. However, according to our district map, it is just outside the boundaries. We did not see evidence that any of the alternatives would effect the principle qualities of the Montana National Guard Headquarters. However, the building is distinctive enough to warrant seeking a determination if there will be project impact.

Unless we have not properly interpreted project impact, we do not think any additional structures involved in the general project area are significant enough to warrant seeking a determination of eligibility.

Sincerely,

Marcella Sherfy
Deputy SHPO

Ms/det

cc: Kathy Huppe
Highway Department

COMMISSIONERS

RICH D. BROWN, MAYOR
DALE L. JOHNSON
MICHAEL J. DASILVA
RUSSELL J. RITTER
JAMES H. NYBO



CITY ENGINEER

City County Building
316 North Park Avenue
Helena, Montana 59601
406/442-9920 Ext 430

City of Helena, Montana

August 15, 1980

Mr. John R. Kelly
Koehnlein, Lightowler, Johnson
4509 North Star Boulevard
P.O. Box 6039
Great Falls, MT 59406

Dear John:

I am enclosing a photocopy of a letter I received from a Mr. John J. McCarthy, Director of Building and Lands for the Diocese of Helena. He states that they would not present too much opposition towards the purchase of the Helena Catholic Center and the Old Bishop Gilmore School, but would strongly object to any alteration of the Cathedral or surrounding grounds. He also stated, at our meeting, that the Diocese owns the parking lot located in the Northwest corner of the intersection of Lawrence and Warren Streets. This parking area would also be affected by the proposed alternate 2a -2b and would have to be purchased from the Diocese.

If I might be of future assistance, please feel free to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michael T. Keiser".

Michael T. Keiser
Traffic Engineer

MTK:lmn

enclosure



Business Administration Office

Diocese of Helena

530 North Ewing

Telephone (406) 442-5825
Helena, Montana
59601

RECEIVED

AUG 14 1980

**CITY of HELENA
ENGINEER**

August 13, 1980

Mr. Michael T. Keiser
Traffic Engineer
City of Helena
316 North Park Avenue
Helena, Montana 59601

Dear Mr. Keiser:

With reference to our meeting on August 7, 1980 regarding the routing of traffic from 11th Avenue to Cruse by way of Warren Street.

While we would not present too much opposition to the fair market value purchase of the Helena Catholic Center and the Old Bishop Gilmore School - we would object to the removing of the steps or any alteration of the Cathedral or the grounds surrounding this historical building.

In comparing this route with your 3 alternatives this appears to be the most expensive.

Sincerely,


John J. McCarthy
Director of Buildings & Lands

JJM/ds

DEPARTMENT OF MILITARY AFFAIRS



TED SCHWINDEN, GOVERNOR

P.O. BOX 4789

STATE OF MONTANA

OFFICE OF THE ADJUTANT GENERAL

HELENA, MONTANA 59609

NG-FAC

5 March 1981

Mr. John R.. Kelly
Project Engineer
Koehulein, Lightowler, Johnson, Inc.
4509 North Star Boulevard
Great Falls, Montana 59406

Dear Mr. Kelly:

This is in response to an inquiry by your consultant, Mr. Clete Daily, relative to the impacts placed on Department of Military Affairs, Montana National Guard property situated on the northwest corner of Lyndale Avenue and Last Chance Gulch, and in connection with State of Montana Highway project number M5807(2).

Although the Draft Environmental Impact/4(f) Statement addresses the historical significance of our facility (National Guard Armory) located at the above mentioned location, we do not consider the Armory site itself as having any historical significance. Therefore, it is the opinion of this Department, that the widening of north Last Chance Gulch will have minimal to zero impact on our Armory and property.

We do, however, have concerns relative to the impact on our employee vehicle parking lots, as addressed in the Highway project plan. As you are aware, the present plan indicates a right turn only into and out of the northwest parking lot. It appears that this may be the only logical solution for our employees that utilize this particular parking lot that live in the east and north areas of the city. As an alternative to those employees driving considerable distances to return to their respective homes, we ask that improvements be considered to the Armory parking lots. This may be in exchange for a lump sum right-of-way payment to this department. We have discussed several alternatives that we would desire to bring to your attention as well as the State of Montana Highway Department .

A copy of this letter will be forwarded to Mr. Gordon Larson, Project Engineer, Montana Highway Department.

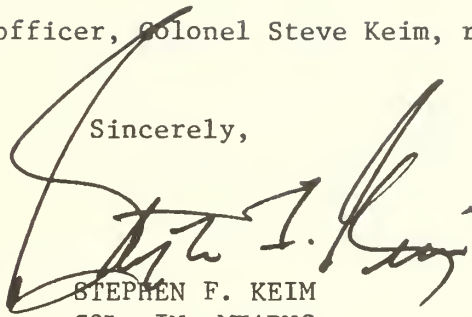
NG-FAC

Mr. John R. Kelly

5 March 1981

You may contact our project officer, Colonel Steve Keim, relative to the above.

Sincerely,

A handwritten signature in dark ink, appearing to read "Steve F. Keim", is written over the typed name and title.

CC: MHD-Mr. Larson
Armory Board

STEPHEN F. KEIM
COL, IN, MTARNG
Facilities Manager and Environmental
Monitor



United States Department of the Interior
HERITAGE CONSERVATION AND RECREATION SERVICE
MID-CONTINENT REGION
POST OFFICE BOX 25387
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

IN REPLY REFER TO:
1202-02b

MAR 21 1980

Mr. John R. Kelly
Project Engineer
Koehnlein, Lightowler, Johnson Inc.
4509 North Star Boulevard
Great Falls, Montana 59406

Dear Mr. Kelly:

This is in response to your March 10, 1980, notice of a scoping meeting for Project M5815(1) Cruse Avenue and Projects M5807(1) and (2), Last Chance Gulch, Helena, Lewis and Clark County, Montana. The following comments are provided on a technical assistance basis only and do not constitute comments on an environmental statement.

Two recreation areas located adjacent to Project M5807(2) have received matching assistance from the Land and Water Conservation Fund for the development of public recreation facilities. One area is the Horseshoe Complex south of the YMCA Building in Bausch Park. The other area is Memorial Park. Park and recreation areas receiving monies from the Fund are subject (in their entirety) to the provisions of Section 6(f) of the Land and Water Conservation Fund Act, as amended. This section of the Act requires that changes from the recreational use of the land be approved by the Secretary of the Interior. Any request for a change in land use at either recreation area must be initiated by the City of Helena through Mr. Ron G. Holliday, Administrator, Parks Division, Montana Department of Fish, Wildlife and Parks, 1420 East 6th Avenue, Helena, Montana 59601.

In addition, if the project will receive Federal funding and use lands from either recreation area, for right-of-way or easements, it will be necessary to comply with the provisions of Section 4(f) of the Department of Transportation Act, as amended, and prepare a Section 4(f) determination.

We hope this information will be useful in continued project planning and construction. If we can be of further assistance in reviewing subsequent aspects of the proposed project, please do not hesitate to call upon this office.

Sincerely,

Robert J. Arkins
Assistant Regional Director
Land Use Coordination

cc: Mr. William Dunbar, Helena, MT
Mr. Ron G. Holliday, Helena, MT

STATE OF MONTANA**DEPARTMENT OF****FISH AND GAME**

Helena, MT 59601
October 14, 1980

Mr. John R. Kelly
Koehnlein Lightowler Johnson, Inc.
Architects and Engineers
4509 Northstar Boulevard
P.O. Box 6039
Great Falls, MT 59406

Mr. Kelly:

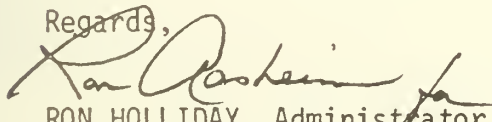
I am in receipt of your letter of October 6 in which you discuss a draft Environmental Impact Statement which you are preparing for project M5807(2)-North Last Chance Gulch from Lyndale Avenue to Cedar Street/Montana Avenue Intersection in Helena.

As you mentioned in your letter, there are two recreation areas along the route in question which have received assistance from the Land and Water Conservation Fund. It is important that you realize if any lands developed with Land and Water Conservation Fund financial assistance are encroached on by this project, those lands would have to be replaced with lands of equal value and facilities of equal value would have to be placed on the new lands acquired. In the case of Bausch Park, our only involvement was in the construction of the horseshoe courts which are eluded to in Mr. Erickson's letter. In Memorial Park, the entire park lying east of the roadway just in front of the swimming pool has been assisted with Land and Water Conservation Fund assistance.

If any of your plans will result in the conversion of any of the above mentioned lands to other than recreation uses, we would need to be involved and make a determination as to what would be reasonable mitigation.

Please let us know if the alternate determined does in fact impact the above recreational lands directly. We thank you for the opportunity to comment.

Regards,


RON HOLLIDAY, Administrator
Parks Division

RH:RA:sue



Department of Health and Environmental Science
STATE OF MONTANA HELENA, MONTANA 59601

AIR QUALITY BUREAU
Cogswell Building
(406) 449-3454

A. C. Knight, M.D., F.C.C.P.
Director

May 2, 1980

James Gelhaus
Northern Testing Laboratories, Inc.
P.O. Box 30615
Billings, MT 59103

Dear Mr. Gelhaus:

I have reviewed the design criteria for the proposed construction of Cruse Avenue in Helena, Montana.

Based on that information, it appears that no substantial air quality impacts will occur as a result of the improvements that are planned.

This statement is tendered in lieu of any formal air quality modeling of the area which might contradict the above conclusion.

Also, secondary factors such as length of time to complete construction, phasing of construction, method of construction (i.e. close one lane of traffic), and traffic control techniques may present emissions significant enough to violate federal standards before the project is complete.

I hope this information will assist you in completing the preliminary review of this project.

If I can be of any further assistance, please do not hesitate to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read "Henry W. Custin", is written above the typed name.

Henry W. Custin
Environmental Planner

HWC:ms



Great Falls, MT
Billings, MT
Boise, ID
Pocatello, ID
Gillette, WY
Casper, WY
Tri-Cities, WA

Specializing in:

- Geotechnical Engineering
- Quality Control of Construction
- Construction Observation and Management
- Coal Analysis and Mining-Related Soils Analysis
- Chemical and Environmental Consulting Services

May 9, 1980

Water Quality Bureau
Montana Department of Health
and Environmental Services
Capitol Station
Helena, MT 59601

ATTENTION: Mr. Steve Pilcher

SUBJECT: Cruse Avenue, Helena Highway Project

Gentlemen:

Northern Testing Laboratories, Inc. (NTL) is writing the air, water, and noise impact section of the draft environmental impact statement on the Cruse Avenue extension through downtown Helena. As part of this environmental assessment process we must obtain the comments of the respective control agencies. We are asking now for the preliminary comments of the Water Quality Bureau on this project.

I have enclosed the recent recommended plan for storm water drainage in downtown Helena and a brief description of the project. Basically the Cruse Avenue extension will run from 6th Avenue to North Montana Avenue. I have marked in red on the enclosed map the proposed project alignment. We feel the impact on the water quality will be small, mainly due to increased sediments due to the increased runoff area. There will be an impact during construction due to runoff of exposed areas.

Please send your comments to me as soon as possible. If you need additional information, please feel free to contact me at your convenience.

Sincerely,

James W. Gelhaus
James W. Gelhaus
Consulting Meteorologist

JWG:kg

Enclosure



Department of Health and Environmental Sciences
STATE OF MONTANA HELENA, MONTANA 59601

A. C. Knight, M.D., F.C.C.P.
Director

June 19, 1980

Mr. James W. Gelhaus
Northern Testing Laboratories
PO Box 30615
600 South 25th Street
Billings, MT 59107

Subject: Cruse Avenue, Helena Highway Project

Dear Mr. Gelhaus:

I am writing in response to your letter to Steve Pilcher on May 9, 1980 concerning the above referenced project.

We concur with your assessment that the effect of the completed project on water quality should be small. Even the effect during construction can be held to a minimum through the use of good sediment control practices.

Thank you for providing us with an opportunity to comment on the project.

Sincerely,

A handwritten signature in cursive script that reads "Roy A. Wells".

Roy A. Wells, P.E.
Water Quality Bureau
Environmental Sciences Division

RAW:jh

300 copies of this publication were produced at a unit
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